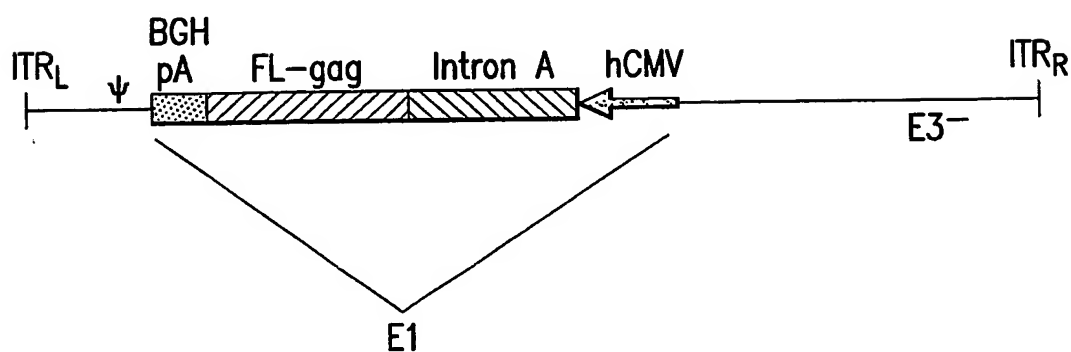ORIGINAL ADENOVECTOR CONSTRUCT:
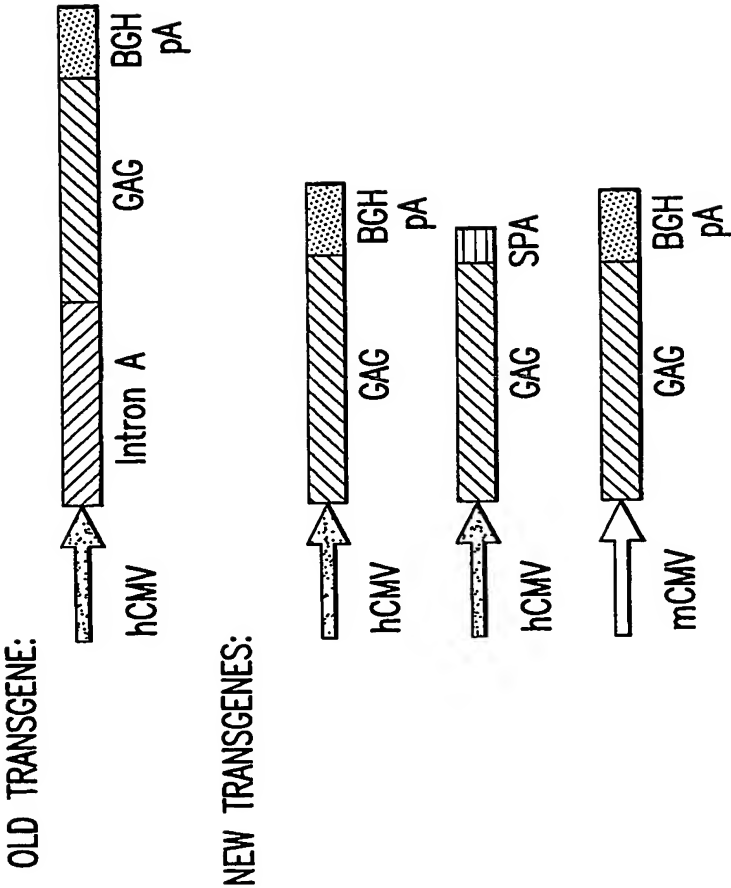

ORIGINAL HIV-1 gag ADENOVECTOR.

FIG.1

Sequence of the open reading frame for FL-gag (human codon optimized)
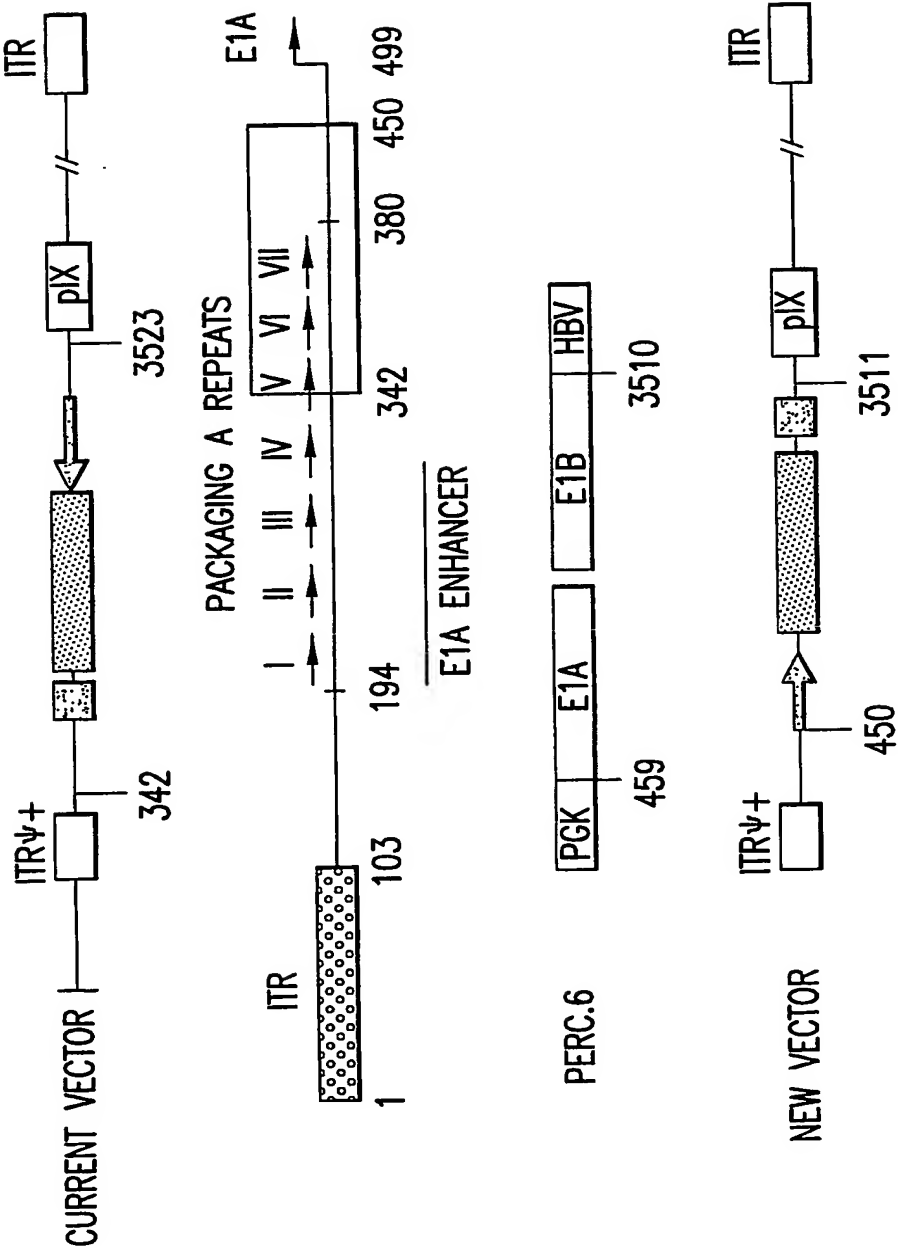
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ctgctggagacctctgaggggtgcaggcagatcctgggccagctccagccctccctgcaaacaggctctgagg
agctgaggtccctgtacaacacagtggctaccctgtactgtgtgcaccagaagattgatgtgaaggacaccaag
gaggccctggagaagattgaggaggagcagaacaagtccaagaagaaggcccagcaggctgctgctggc
acaggcaactccagccaggtgtcccagaactaccccattgtgcagaacctccagggccagatggtgcaccag
gccatctccccccggaccctgaatgcctgggtgaaggtggtggaggagaaggccttctcccctgaggtgatccc
catgttctctgccctgtctgagggtgccaccccccaggacctgaacaccatgctgaacacagtggggggccatc
aggctgccatgcagatgctgaaggagaccatcaatgaggaggctgctgagtgggacaggctgcatcctgtgc
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cccttcagggactatgtggacaggttctacaagaccctgagggctgagcaggcctcccaggaggtgaagaact
ggatgacagagaccctgctggtgcagaatgccaaccctgactgcaagaccatcctgaaggccctgggccctg
ctgccaccctggaggagatgatgacagcctgccaggggggtgggggggccctggtcacaaggccagggtgctg
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agggctgctggaagtgtggcaaggagggccaccagatgaaggactgcaatgagaggcaggccaacttcctg
ggcaaaatctggccctcccacaagggcaggcctggcaacttcctccagtccaggcctgagcccacagccect
cccgaggagtccttcaggtttggggaggagaagaccaccccccagccagaagcaggagcccattgacaagg
agctgtaccccctggcctccctgaggtccctgtttggcaacgacccctcctcccagtaaaataaagcccgggca
gat
```

FIG.2

DIAGRAMMATIC REPRESENTATION OF THE ORIGINAL HIV-1 GAG TRANSGENE AND THE SERIES OF NEW TRANSGENE CONSTRUCTIONS.

FIG.3

CURRENT VECTOR

ITRΨ+ — 342 — pIX — 3523 — // — ITR

PACKAGING A REPEATS

E1A

I II III IV V VI VII

1 — 103 — 194 — 342 — 380 — 450 499

ITR

E1A ENHANCER

PERC.6

PGK | E1A — 459 — E1B | HBV — 3510

NEW VECTOR

ITRΨ+ — 450 — 3511 — pIX — // — ITR

FIG.4

MODIFICATIONS MADE TO THE CURRENT ADENOVECTOR BACKBONE IN THE GENERATION OF THE NEW VECTOR.

FIG.5

FIG.6

FIG.7

EcoR I (37465)
BmaH I (37459)
Apa LI (37128)
Apa LI (35901)
EcoR I (35466)
Sma I (34875)
Xma I (34873)
Hind III (34449)
Sma I (32612)
Xma I (32610)
Hind III (31512)
Apa LI (30969)
EcoR I (29568)
Apa LI (28370)
Apa LI (28201)
Sma I (27049)
Xma I (27047)
EcoR I (26850)
Sma I (26819)
Xma I (26817)
Hind III (25853)
Apa LI (25132)
Sma I (23439)
Xma I (23437)
Apa LI (22535)
Apa LI (22235)
Apa LI (21148)
BmaH I (21087)
Sma I (19899)
Xma I (19897)

Apa LI (1534)
Apa LI (1699)
Apa LI (1924)
Xma I (2783)
Sma I (2785)
Xma I (3465)
Sma I (3467)
Xma I (3645)
Sma I (3647)
Apa LI (4034)
Hind III (5766)
Apa LI (5940)
Xma I (6108)
Sma I (6110)
Apa LI (7641)
Hind III (11090)
Xma I (12588)
Sma I (12590)
Hind III (13171)
Hind III (13246)
Xma I (13987)
Sma I (13989)
Apa LI (15089)
Hind III (17844)
Xma I (18442)
Sma I (18444)

pAd5gag 2
37474 bp
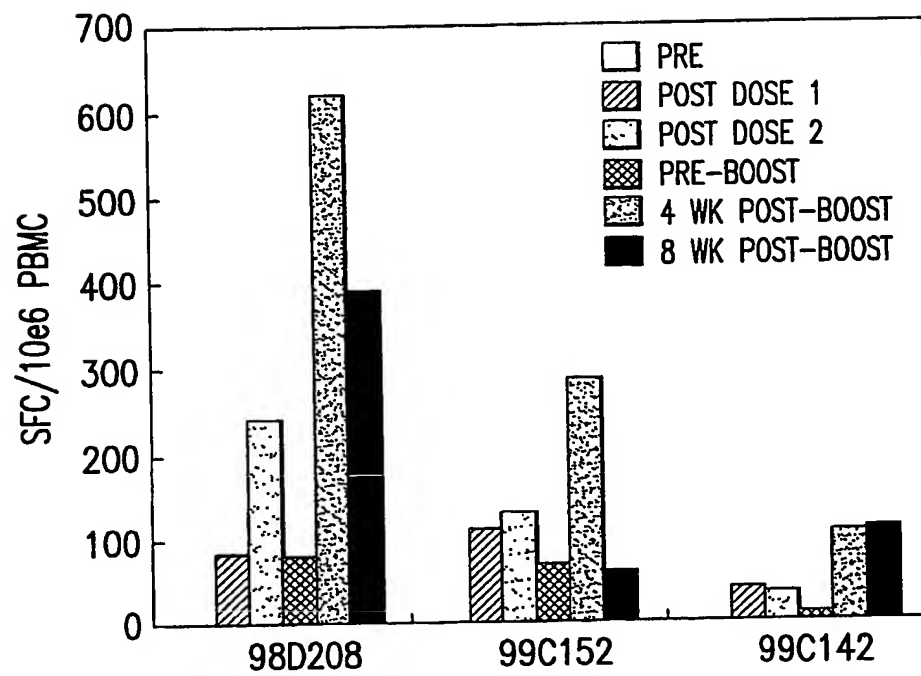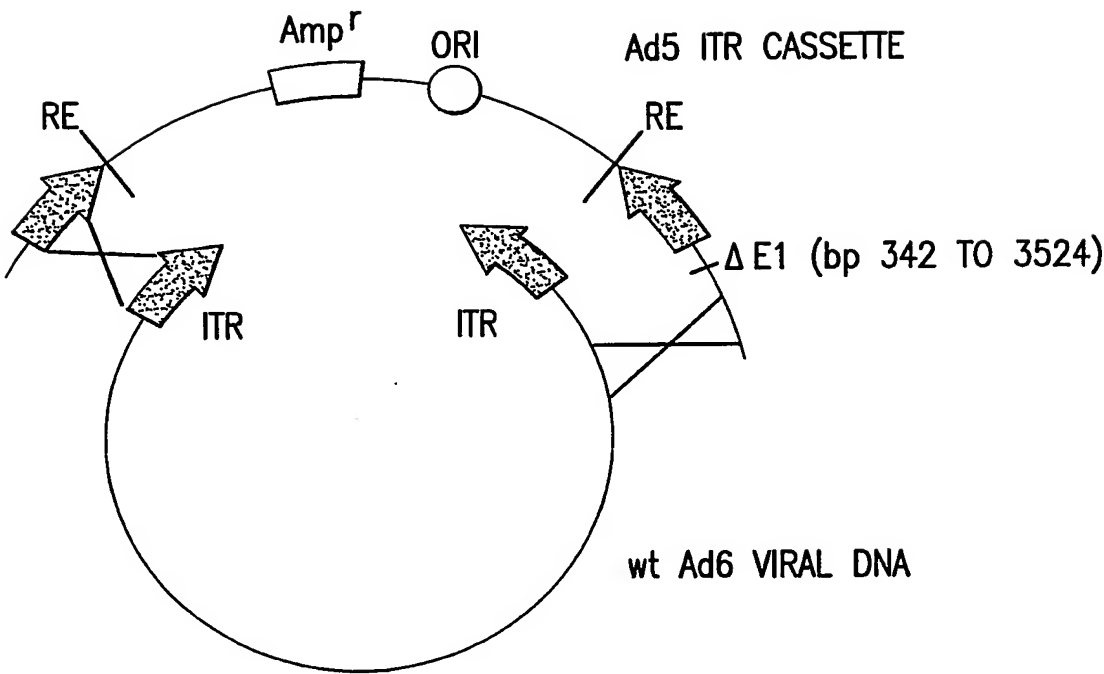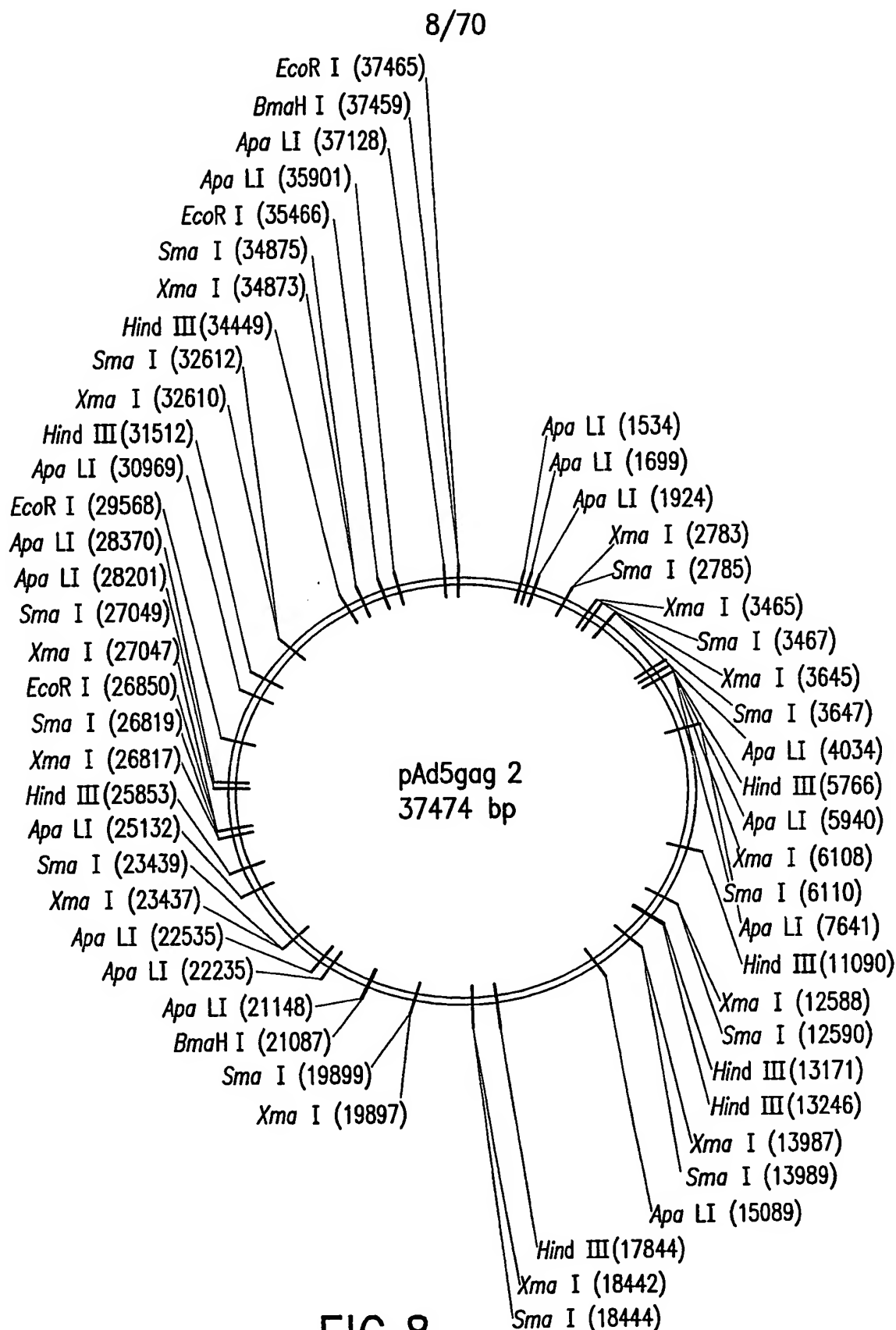
FIG.8

PacI
‾‾‾‾‾‾‾‾

```
  1   TTCTTAATTA ACATCATCAA TAATATACCT TATTTTGGAT TGAAGCCAAT
      AAGAATTAAT TGTAGTAGTT ATTATATGGA ATAAAACCTA ACTTCGGTTA

 51   ATGATAATGA GGGGGTGGAG TTTGTGACGT GGCGCGGGGC GTGGGAACGG
      TACTATTACT CCCCCACCTC AAACACTGCA CCGCGCCCCG CACCCTTGCC

101   GGCGGGTGAC GTAGTAGTGT GGCGGAAGTG TGATGTTGCA AGTGTGGCGG
      CCGCCCACTG CATCATCACA CCGCCTTCAC ACTACAACGT TCACACCGCC

151   AACACATGTA AGCGACGGAT GTGGCAAAAG TGACGTTTTT GGTGTGCGCC
      TTGTGTACAT TCGCTGCCTA CACCGTTTTC ACTGCAAAAA CCACACGCGG

201   GGTGTACACA GGAAGTGACA ATTTTCGCGC GGTTTTAGGC GGATGTTGTA
      CCACATGTGT CCTTCACTGT TAAAAGCGCG CCAAAATCCG CCTACAACAT

251   GTAAATTTGG GCGTAACCGA GTAAGATTTG GCCATTTTCG CGGGAAAACT
      CATTTAAACC CGCATTGGCT CATTCTAAAC CGGTAAAAGC GCCCTTTTGA

301   GAATAAGAGG AAGTGAAATC TGAATAATTT TGTGTTACTC ATAGCGCGTA
      CTTATTCTCC TTCACTTTAG ACTTATTAAA ACACAATGAG TATCGCGCAT

351   ATATTTGTCT AGGGCCGCGG GGACTTTGAC CGTTTACGTG GAGACTCGCC
      TATAAACAGA TCCCGGCGCC CCTGAAACTG GCAAATGCAC CTCTGAGCGG

401   CAGGTGTTTT TCTCAGGTGT TTTCCGCGTT CCGGGTCAAA GTTGGCGTTT
      GTCCACAAAA AGAGTCCACA AAAGGCGCAA GGCCCAGTTT CAACCGCAAA

451   TATTATTATA GGCGGCCGCG ATCCATTGCA TACGTTGTAT CCATATCATA
      ATAATAATAT CCGCCGGCGC TAGGTAACGT ATGCAACATA GGTATAGTAT

501   ATATGTACAT TTATATTGGC TCATGTCCAA CATTACCGCC ATGTTGACAT
      TATACATGTA AATATAACCG AGTACAGGTT GTAATGGCGG TACAACTGTA

551   TGATTATTGA CTAGTTATTA ATAGTAATCA ATTACGGGGT CATTAGTTCA
      ACTAATAACT GATCAATAAT TATCATTAGT TAATGCCCCA GTAATCAAGT

601   TAGCCCATAT ATGGAGTTCC GCGTTACATA ACTTACGGTA AATGGCCCGC
      ATCGGGTATA TACCTCAAGG CGCAATGTAT TGAATGCCAT TTACCGGGCG

651   CTGGCTGACC GCCCAACGAC CCCCGCCCAT TGACGTCAAT AATGACGTAT
      GACCGACTGG CGGGTTGCTG GGGGCGGGTA ACTGCAGTTA TTACTGCATA

701   GTTCCCATAG TAACGCCAAT AGGGACTTTC CATTGACGTC AATGGGTGGA
      CAAGGGTATC ATTGCGGTTA TCCCTGAAAG GTAACTGCAG TTACCCACCT

751   GTATTTACGG TAAACTGCCC ACTTGGCAGT ACATCAAGTG TATCATATGC
      CATAAATGCC ATTTGACGGG TGAACCGTCA TGTAGTTCAC ATAGTATACG
```

FIG.9A-1

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 801  CAAGTACGCC CCCTATTGAC GTCAATGACG GTAAATGGCC CGCCTGGCAT
      GTTCATGCGG GGGATAACTG CAGTTACTGC CATTTACCGG GCGGACCGTA

 851  TATGCCCAGT ACATGACCTT ATGGGACTTT CCTACTTGGC AGTACATCTA
      ATACGGGTCA TGTACTGGAA TACCCTGAAA GGATGAACCG TCATGTAGAT

 901  CGTATTAGTC ATCGCTATTA CCATGGTGAT GCGGTTTTGG CAGTACATCA
      GCATAATCAG TAGCGATAAT GGTACCACTA CGCCAAAACC GTCATGTAGT

 951  ATGGGCGTGG ATAGCGGTTT GACTCACGGG GATTTCCAAG TCTCCACCCC
      TACCCGCACC TATCGCCAAA CTGAGTGCCC CTAAAGGTTC AGAGGTGGGG

1001  ATTGACGTCA ATGGGAGTTT GTTTTGGCAC CAAAATCAAC GGGACTTTCC
      TAACTGCAGT TACCCTCAAA CAAAACCGTG GTTTTAGTTG CCCTGAAAGG

1051  AAAATGTCGT AACAACTCCG CCCCATTGAC GCAAATGGGC GGTAGGCGTG
      TTTTACAGCA TTGTTGAGGC GGGGTAACTG CGTTTACCCG CCATCCGCAC

1101  TACGGTGGGA GGTCTATATA AGCAGAGCTC GTTTAGTGAA CCGTCAGATC
      ATGCCACCCT CCAGATATAT TCGTCTCGAG CAAATCACTT GGCAGTCTAG

1151  GCCTGGAGAC GCCATCCACG CTGTTTTGAC CTCCATAGAA GACACCGGGA
      CGGACCTCTG CGGTAGGTGC GACAAAACTG GAGGTATCTT CTGTGGCCCT

1201  CCGATCCAGC CTCCGCGGCC GGGAACGGTG CATTGGAACG CGGATTCCCC
      GGCTAGGTCG GAGGCGCCGG CCCTTGCCAC GTAACCTTGC GCCTAAGGGG

1251  GTGCCAAGAG TGAGATCTAC CATGGGTGCT AGGGCTTCTG TGCTGTCTGG
      CACGGTTCTC ACTCTAGATG GTACCCACGA TCCCGAAGAC ACGACAGACC

1301  TGGTGAGCTG GACAAGTGGG AGAAGATCAG GCTGAGGCCT GGTGGCAAGA
      ACCACTCGAC CTGTTCACCC TCTTCTAGTC CGACTCCGGA CCACCGTTCT

1351  AGAAGTACAA GCTAAAGCAC ATTGTGTGGG CCTCCAGGGA GCTGGAGAGG
      TCTTCATGTT CGATTTCGTG TAACACACCC GGAGGTCCCT CGACCTCTCC

1401  TTTGCTGTGA ACCCTGGCCT GCTGGAGACC TCTGAGGGGT GCAGGCAGAT
      AAACGACACT TGGGACCGGA CGACCTCTGG AGACTCCCCA CGTCCGTCTA

1451  CCTGGGCCAG CTCCAGCCCT CCCTGCAAAC AGGCTCTGAG GAGCTGAGGT
      GGACCCGGTC GAGGTCGGGA GGGACGTTTG TCCGAGACTC CTCGACTCCA

1501  CCCTGTACAA CACAGTGGCT ACCCTGTACT GTGTGCACCA GAAGATTGAT
      GGGACATGTT GTGTCACCGA TGGGACATGA CACACGTGGT CTTCTAACTA

1551  GTGAAGGACA CCAAGGAGGC CCTGGAGAAG ATTGAGGAGG AGCAGAACAA
      CACTTCCTGT GGTTCCTCCG GGACCTCTTC TAACTCCTCC TCGTCTTGTT

1601  GTCCAAGAAG AAGGCCCAGC AGGCTGCTGC TGGCACAGGC AACTCCAGCC
      CAGGTTCTTC TTCCGGGTCG TCCGACGACG ACCGTGTCCG TTGAGGTCGG
```

FIG.9A-2

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1651   AGGTGTCCCA GAACTACCCC ATTGTGCAGA ACCTCCAGGG CCAGATGGTG
       TCCACAGGGT CTTGATGGGG TAACACGTCT TGGAGGTCCC GGTCTACCAC

1701   CACCAGGCCA TCTCCCCCCG GACCCTGAAT GCCTGGGTGA AGGTGGTGGA
       GTGGTCCGGT AGAGGGGGGC CTGGGACTTA CGGACCCACT TCCACCACCT

1751   GGAGAAGGCC TTCTCCCCTG AGGTGATCCC CATGTTCTCT GCCCTGTCTG
       CCTCTTCCGG AAGAGGGGAC TCCACTAGGG GTACAAGAGA CGGGACAGAC

1801   AGGGTGCCAC CCCCCAGGAC CTGAACACCA TGCTGAACAC AGTGGGGGGC
       TCCCACGGTG GGGGGTCCTG GACTTGTGGT ACGACTTGTG TCACCCCCCG

1851   CATCAGGCTG CCATGCAGAT GCTGAAGGAG ACCATCAATG AGGAGGCTGC
       GTAGTCCGAC GGTACGTCTA CGACTTCCTC TGGTAGTTAC TCCTCCGACG

1901   TGAGTGGGAC AGGCTGCATC CTGTGCACGC TGGCCCCATT GCCCCCGGCC
       ACTCACCCTG TCCGACGTAG GACACGTGCG ACCGGGGTAA CGGGGGCCGG

1951   AGATGAGGGA GCCCAGGGGC TCTGACATTG CTGGCACCAC CTCCACCCTC
       TCTACTCCCT CGGGTCCCCG AGACTGTAAC GACCGTGGTG GAGGTGGGAG

2001   CAGGAGCAGA TTGGCTGGAT GACCAACAAC CCCCCCATCC CTGTGGGGGA
       GTCCTCGTCT AACCGACCTA CTGGTTGTTG GGGGGGTAGG GACACCCCCT

2051   AATCTACAAG AGGTGGATCA TCCTGGGCCT GAACAAGATT GTGAGGATGT
       TTAGATGTTC TCCACCTAGT AGGACCCGGA CTTGTTCTAA CACTCCTACA

2101   ACTCCCCCAC CTCCATCCTG GACATCAGGC AGGGCCCCAA GGAGCCCTTC
       TGAGGGGGTG GAGGTAGGAC CTGTAGTCCG TCCCGGGGTT CCTCGGGAAG

2151   AGGGACTATG TGGACAGGTT CTACAAGACC CTGAGGGCTG AGCAGGCCTC
       TCCCTGATAC ACCTGTCCAA GATGTTCTGG GACTCCCGAC TCGTCCGGAG

2201   CCAGGAGGTG AAGAACTGGA TGACAGAGAC CCTGCTGGTG CAGAATGCCA
       GGTCCTCCAC TTCTTGACCT ACTGTCTCTG GGACGACCAC GTCTTACGGT

2251   ACCCTGACTG CAAGACCATC CTGAAGGCCC TGGGCCCTGC TGCCACCCTG
       TGGGACTGAC GTTCTGGTAG GACTTCCGGG ACCCGGGACG ACGGTGGGAC

2301   GAGGAGATGA TGACAGCCTG CCAGGGGGTG GGGGGCCCTG GTCACAAGGC
       CTCCTCTACT ACTGTCGGAC GGTCCCCCAC CCCCCGGGAC CAGTGTTCCG

2351   CAGGGTGCTG GCTGAGGCCA TGTCCCAGGT GACCAACTCC GCCACCATCA
       GTCCCACGAC CGACTCCGGT ACAGGGTCCA CTGGTTGAGG CGGTGGTAGT

2401   TGATGCAGAG GGGCAACTTC AGGAACCAGA GGAAGACAGT GAAGTGCTTC
       ACTACGTCTC CCCGTTGAAG TCCTTGGTCT CCTTCTGTCA CTTCACGAAG

2451   AACTGTGGCA AGGTGGGCCA CATTGCCAAG AACTGTAGGG CCCCCAGGAA
       TTGACACCGT TCCACCCGGT GTAACGGTTC TTGACATCCC GGGGGTCCTT

FIG.9A-3

2501   GAAGGGCTGC TGGAAGTGTG GCAAGGAGGG CCACCAGATG AAGGACTGCA
       CTTCCCGACG ACCTTCACAC CGTTCCTCCC GGTGGTCTAC TTCCTGACGT

2551   ATGAGAGGCA GGCCAACTTC CTGGGCAAAA TCTGGCCCTC CCACAAGGGC
       TACTCTCCGT CCGGTTGAAG GACCCGTTTT AGACCGGGAG GGTGTTCCCG

2601   AGGCCTGGCA ACTTCCTCCA GTCCAGGCCT GAGCCCACAG CCCCTCCCGA
       TCCGGACCGT TGAAGGAGGT CAGGTCCGGA CTCGGGTGTC GGGGAGGGCT

2651   GGAGTCCTTC AGGTTTGGGG AGGAGAAGAC CACCCCCAGC CAGAAGCAGG
       CCTCAGGAAG TCCAAACCCC TCCTCTTCTG GTGGGGGTCG GTCTTCGTCC

2701   AGCCCATTGA CAAGGAGCTG TACCCCCTGG CCTCCCTGAG GTCCCTGTTT
       TCGGGTAACT GTTCCTCGAC ATGGGGGACC GGAGGGACTC CAGGGACAAA

2751   GGCAACGACC CCTCCTCCCA GTAAAATAAA GCCCGGGCAG ATCTGCTGTG
       CCGTTGCTGG GGAGGAGGGT CATTTTATTT CGGGCCCGTC TAGACGACAC

2801   CCTTCTAGTT GCCAGCCATC TGTTGTTTGC CCCTCCCCCG TGCCTTCCTT
       GGAAGATCAA CGGTCGGTAG ACAACAAACG GGGAGGGGGC ACGGAAGGAA

2851   GACCCTGGAA GGTGCCACTC CCACTGTCCT TTCCTAATAA AATGAGGAAA
       CTGGGACCTT CCACGGTGAG GGTGACAGGA AAGGATTATT TTACTCCTTT

2901   TTGCATCGCA TTGTCTGAGT AGGTGTCATT CTATTCTGGG GGGTGGGGTG
       AACGTAGCGT AACAGACTCA TCCACAGTAA GATAAGACCC CCCACCCCAC

2951   GGGCAGGACA GCAAGGGGGA GGATTGGGAA GACAATAGCA GGCATGCTGG
       CCCGTCCTGT CGTTCCCCCT CCTAACCCTT CTGTTATCGT CCGTACGACC

3001   GGATGCGGTG GGCTCTATGG CCGATCGGCG CGCCGTACTG AAATGTGTGG
       CCTACGCCAC CCGAGATACC GGCTAGCCGC GCGGCATGAC TTTACACACC

3051   GCGTGGCTTA AGGGTGGGAA AGAATATATA AGGTGGGGGT CTTATGTAGT
       CGCACCGAAT TCCCACCCTT TCTTATATAT TCCACCCCCA GAATACATCA

3101   TTTGTATCTG TTTTGCAGCA GCCGCCGCCG CCATGAGCAC CAACTCGTTT
       AAACATAGAC AAAACGTCGT CGGCGGCGGC GGTACTCGTG GTTGAGCAAA

3151   GATGGAAGCA TTGTGAGCTC ATATTTGACA ACGCGCATGC CCCCATGGGC
       CTACCTTCGT AACACTCGAG TATAAACTGT TGCGCGTACG GGGGTACCCG

3201   CGGGGTGCGT CAGAATGTGA TGGGCTCCAG CATTGATGGT CGCCCCGTCC
       GCCCCACGCA GTCTTACACT ACCCGAGGTC GTAACTACCA GCGGGGCAGG

3251   TGCCCGCAAA CTCTACTACC TTGACCTACG AGACCGTGTC TGGAACGCCG
       ACGGGCGTTT GAGATGATGG AACTGGATGC TCTGGCACAG ACCTTGCGGC

3301   TTGGAGACTG CAGCCTCCGC CGCCGCTTCA GCCGCTGCAG CCACCGCCCG
       AACCTCTGAC GTCGGAGGCG GCGGCGAAGT CGGCGACGTC GGTGGCGGGC

FIG.9A-4

```
3351  CGGGATTGTG ACTGACTTTG CTTTCCTGAG CCCGCTTGCA AACAGTGCAG
      GCCCTAACAC TGACTGAAAC GAAAGGACTC GGGCGAACGT TTGTCACGTC

3401  CTTCCCGTTC ATCCGCCCGC GATGACAAGT TGACGGCTCT TTTGGCACAA
      GAAGGGCAAG TAGGCGGGCG CTACTGTTCA ACTGCCGAGA AAACCGTGTT

3451  TTGGATTCTT TGACCCGGGA ACTTAATGTC GTTTCTCAGC AGCTGTTGGA
      AACCTAAGAA ACTGGGCCCT TGAATTACAG CAAAGAGTCG TCGACAACCT

3501  TCTGCGCCAG CAGGTTTCTG CCCTGAAGGC TTCCTCCCCT CCCAATGCGG
      AGACGCGGTC GTCCAAAGAC GGGACTTCCG AAGGAGGGGA GGGTTACGCC

3551  TTTAAAACAT AAATAAAAAA CCAGACTCTG TTTGGATTTG GATCAAGCAA
      AAATTTTGTA TTTATTTTTT GGTCTGAGAC AAACCTAAAC CTAGTTCGTT

3601  GTGTCTTGCT GTCTTTATTT AGGGGTTTTG CGCGCGCGGT AGGCCCGGGA
      CACAGAACGA CAGAAATAAA TCCCCAAAAC GCGCGCGCCA TCCGGGCCCT

3651  CCAGCGGTCT CGGTCGTTGA GGGTCCTGTG TATTTTTTCC AGGACGTGGT
      GGTCGCCAGA GCCAGCAACT CCCAGGACAC ATAAAAAAGG TCCTGCACCA

3701  AAAGGTGACT CTGGATGTTC AGATACATGG GCATAAGCCC GTCTCTGGGG
      TTTCCACTGA GACCTACAAG TCTATGTACC CGTATTCGGG CAGAGACCCC

3751  TGGAGGTAGC ACCACTGCAG AGCTTCATGC TGCGGGGTGG TGTTGTAGAT
      ACCTCCATCG TGGTGACGTC TCGAAGTACG ACGCCCCACC ACAACATCTA

3801  GATCCAGTCG TAGCAGGAGC GCTGGGCGTG GTGCCTAAAA ATGTCTTTCA
      CTAGGTCAGC ATCGTCCTCG CGACCCGCAC CACGGATTTT TACAGAAAGT

3851  GTAGCAAGCT GATTGCCAGG GGCAGGCCCT TGGTGTAAGT GTTTACAAAG
      CATCGTTCGA CTAACGGTCC CCGTCCGGGA ACCACATTCA CAAATGTTTC

3901  CGGTTAAGCT GGGATGGGTG CATACGTGGG GATATGAGAT GCATCTTGGA
      GCCAATTCGA CCCTACCCAC GTATGCACCC CTATACTCTA CGTAGAACCT

3951  CTGTATTTTT AGGTTGGCTA TGTTCCCAGC CATATCCCTC CGGGGATTCA
      GACATAAAAA TCCAACCGAT ACAAGGGTCG GTATAGGGAG GCCCCTAAGT

4001  TGTTGTGCAG AACCACCAGC ACAGTGTATC CGGTGCACTT GGGAAATTTG
      ACAACACGTC TTGGTGGTCG TGTCACATAG GCCACGTGAA CCCTTTAAAC

4051  TCATGTAGCT TAGAAGGAAA TGCGTGGAAG AACTTGGAGA CGCCCTTGTG
      AGTACATCGA ATCTTCCTTT ACGCACCTTC TTGAACCTCT GCGGGAACAC

4101  ACCTCCAAGA TTTTCCATGC ATTCGTCCAT AATGATGGCA ATGGGCCCAC
      TGGAGGTTCT AAAAGGTACG TAAGCAGGTA TTACTACCGT TACCCGGGTG

4151  GGGCGGCGGC CTGGGCGAAG ATATTTCTGG GATCACTAAC GTCATAGTTG
      CCCGCCGCCG GACCCGCTTC TATAAAGACC CTAGTGATTG CAGTATCAAC
```

FIG.9A-5

```
4201   TGTTCCAGGA TGAGATCGTC ATAGGCCATT TTTACAAAGC GCGGGCGGAG
       ACAAGGTCCT ACTCTAGCAG TATCCGGTAA AAATGTTTCG CGCCCGCCTC

4251   GGTGCCAGAC TGCGGTATAA TGGTTCCATC CGGCCCAGGG GCGTAGTTAC
       CCACGGTCTG ACGCCATATT ACCAAGGTAG GCCGGGTCCC CGCATCAATG

4301   CCTCACAGAT TTGCATTTCC CACGCTTTGA GTTCAGATGG GGGGATCATG
       GGAGTGTCTA AACGTAAAGG GTGCGAAACT CAAGTCTACC CCCCTAGTAC

4351   TCTACCTGCG GGGCGATGAA GAAAACGGTT TCCGGGGTAG GGGAGATCAG
       AGATGGACGC CCCGCTACTT CTTTTGCCAA AGGCCCCATC CCCTCTAGTC

4401   CTGGGAAGAA AGCAGGTTCC TGAGCAGCTG CGACTTACCG CAGCCGGTGG
       GACCCTTCTT TCGTCCAAGG ACTCGTCGAC GCTGAATGGC GTCGGCCACC

4451   GCCCGTAAAT CACACCTATT ACCGGCTGCA ACTGGTAGTT AAGAGAGCTG
       CGGGCATTTA GTGTGGATAA TGGCCGACGT TGACCATCAA TTCTCTCGAC

4501   CAGCTGCCGT CATCCCTGAG CAGGGGGGCC ACTTCGTTAA GCATGTCCCT
       GTCGACGGCA GTAGGGACTC GTCCCCCCGG TGAAGCAATT CGTACAGGGA

4551   GACTCGCATG TTTTCCCTGA CCAAATCCGC CAGAAGGCGC TCGCCGCCCA
       CTGAGCGTAC AAAAGGGACT GGTTTAGGCG GTCTTCCGCG AGCGGCGGGT

4601   GCGATAGCAG TTCTTGCAAG GAAGCAAAGT TTTTCAACGG TTTGAGACCG
       CGCTATCGTC AAGAACGTTC CTTCGTTTCA AAAAGTTGCC AAACTCTGGC

4651   TCCGCCGTAG GCATGCTTTT GAGCGTTTGA CCAAGCAGTT CCAGGCGGTC
       AGGCGGCATC CGTACGAAAA CTCGCAAACT GGTTCGTCAA GGTCCGCCAG

4701   CCACAGCTCG GTCACCTGCT CTACGGCATC TCGATCCAGC ATATCTCCTC
       GGTGTCGAGC CAGTGGACGA GATGCCGTAG AGCTAGGTCG TATAGAGGAG

4751   GTTTCGCGGG TTGGGGCGGC TTTCGCTGTA CGGCAGTAGT CGGTGCTCGT
       CAAAGCGCCC AACCCCGCCG AAAGCGACAT GCCGTCATCA GCCACGAGCA

4801   CCAGACGGGC CAGGGTCATG TCTTTCCACG GGCGCAGGGT CCTCGTCAGC
       GGTCTGCCCG GTCCCAGTAC AGAAAGGTGC CCGCGTCCCA GGAGCAGTCG

4851   GTAGTCTGGG TCACGGTGAA GGGGTGCGCT CCGGGCTGCG CGCTGGCCAG
       CATCAGACCC AGTGCCACTT CCCCACGCGA GGCCCGACGC GCGACCGGTC

4901   GGTGCGCTTG AGGCTGGTCC TGCTGGTGCT GAAGCGCTGC CGGTCTTCGC
       CCACGCGAAC TCCGACCAGG ACGACCACGA CTTCGCGACG GCCAGAAGCG

4951   CCTGCGCGTC GGCCAGGTAG CATTTGACCA TGGTGTCATA GTCCAGCCCC
       GGACGCGCAG CCGGTCCATC GTAAACTGGT ACCACAGTAT CAGGTCGGGG

5001   TCCGCGGCGT GGCCCTTGGC GCGCAGCTTG CCCTTGGAGG AGGCGCCGCA
       AGGCGCCGCA CCGGGAACCG CGCGTCGAAC GGGAACCTCC TCCGCGGCGT
```

FIG.9A-6

```
5051   CGAGGGGCAG TGCAGACTTT TGAGGGCGTA GAGCTTGGGC GCGAGAAATA
       GCTCCCCGTC ACGTCTGAAA ACTCCCGCAT CTCGAACCCG CGCTCTTTAT

5101   CCGATTCCGG GGAGTAGGCA TCCGCGCCGC AGGCCCCGCA GACGGTCTCG
       GGCTAAGGCC CCTCATCCGT AGGCGCGGCG TCCGGGGCGT CTGCCAGAGC

5151   CATTCCACGA GCCAGGTGAG CTCTGGCCGT TCGGGGTCAA AAACCAGGTT
       GTAAGGTGCT CGGTCCACTC GAGACCGGCA AGCCCCAGTT TTTGGTCCAA

5201   TCCCCCATGC TTTTTGATGC GTTTCTTACC TCTGGTTTCC ATGAGCCGGT
       AGGGGGTACG AAAAACTACG CAAAGAATGG AGACCAAAGG TACTCGGCCA

5251   GTCCACGCTC GGTGACGAAA AGGCTGTCCG TGTCCCCGTA TACAGACTTG
       CAGGTGCGAG CCACTGCTTT TCCGACAGGC ACAGGGGCAT ATGTCTGAAC

5301   AGAGGCCTGT CCTCGAGCGG TGTTCCGCGG TCCTCCTCGT ATAGAAACTC
       TCTCCGGACA GGAGCTCGCC ACAAGGCGCC AGGAGGAGCA TATCTTTGAG

5351   GGACCACTCT GAGACAAAGG CTCGCGTCCA GGCCAGCACG AAGGAGGCTA
       CCTGGTGAGA CTCTGTTTCC GAGCGCAGGT CCGGTCGTGC TTCCTCCGAT

5401   AGTGGGAGGG GTAGCGGTCG TTGTCCACTA GGGGGTCCAC TCGCTCCAGG
       TCACCCTCCC CATCGCCAGC AACAGGTGAT CCCCCAGGTG AGCGAGGTCC

5451   GTGTGAAGAC ACATGTCGCC CTCTTCGGCA TCAAGGAAGG TGATTGGTTT
       CACACTTCTG TGTACAGCGG GAGAAGCCGT AGTTCCTTCC ACTAACCAAA

5501   GTAGGTGTAG GCCACGTGAC CGGGTGTTCC TGAAGGGGGG CTATAAAAGG
       CATCCACATC CGGTGCACTG GCCCACAAGG ACTTCCCCCC GATATTTTCC

5551   GGGTGGGGGC GCGTTCGTCC TCACTCTCTT CCGCATCGCT GTCTGCGAGG
       CCCACCCCCG CGCAAGCAGG AGTGAGAGAA GGCGTAGCGA CAGACGCTCC

5601   GCCAGCTGTT GGGGTGAGTA CTCCCTCTGA AAAGCGGGCA TGACTTCTGC
       CGGTCGACAA CCCCACTCAT GAGGGAGACT TTTCGCCCGT ACTGAAGACG

5651   GCTAAGATTG TCAGTTTCCA AAAACGAGGA GGATTTGATA TTCACCTGGC
       CGATTCTAAC AGTCAAAGGT TTTTGCTCCT CCTAAACTAT AAGTGGACCG

5701   CCGCGGTGAT GCCTTTGAGG GTGGCCGCAT CCATCTGGTC AGAAAAGACA
       GGCGCCACTA CGGAAACTCC CACCGGCGTA GGTAGACCAG TCTTTTCTGT

5751   ATCTTTTTGT TGTCAAGCTT GGTGGCAAAC GACCCGTAGA GGGCGTTGGA
       TAGAAAAACA ACAGTTCGAA CCACCGTTTG CTGGGCATCT CCCGCAACCT

5801   CAGCAACTTG GCGATGGAGC GCAGGGTTTG GTTTTTTGTCG CGATCGGCGC
       GTCGTTGAAC CGCTACCTCG CGTCCCAAAC CAAAAACAGC GCTAGCCGCG

5851   GCTCCTTGGC CGCGATGTTT AGCTGCACGT ATTCGCGCGC AACGCACCGC
       CGAGGAACCG GCGCTACAAA TCGACGTGCA TAAGCGCGCG TTGCGTGGCG
```

FIG.9A-7

```
5901   CATTCGGGAA AGACGGTGGT GCGCTCGTCG GGCACCAGGT GCACGCGCCA
       GTAAGCCCTT TCTGCCACCA CGCGAGCAGC CCGTGGTCCA CGTGCGCGGT

5951   ACCGCGGTTG TGCAGGGTGA CAAGGTCAAC GCTGGTGGCT ACCTCTCCGC
       TGGCGCCAAC ACGTCCCACT GTTCCAGTTG CGACCACCGA TGGAGAGGCG

6001   GTAGGCGCTC GTTGGTCCAG CAGAGGCGGC CGCCCTTGCG CGAGCAGAAT
       CATCCGCGAG CAACCAGGTC GTCTCCGCCG GCGGGAACGC GCTCGTCTTA

6051   GGCGGTAGGG GGTCTAGCTG CGTCTCGTCC GGGGGGTCTG CGTCCACGGT
       CCGCCATCCC CCAGATCGAC GCAGAGCAGG CCCCCCAGAC GCAGGTGCCA

6101   AAAGACCCCG GGCAGCAGGC GCGCGTCGAA GTAGTCTATC TTGCATCCTT
       TTTCTGGGGC CCGTCGTCCG CGCGCAGCTT CATCAGATAG AACGTAGGAA

6151   GCAAGTCTAG CGCCTGCTGC CATGCGCGGG CGGCAAGCGC GCGCTCGTAT
       CGTTCAGATC GCGGACGACG GTACGCGCCC GCCGTTCGCG CGCGAGCATA

6201   GGGTTGAGTG GGGGACCCCA TGGCATGGGG TGGGTGAGCG CGGAGGCGTA
       CCCAACTCAC CCCCTGGGGT ACCGTACCCC ACCCACTCGC GCCTCCGCAT

6251   CATGCCGCAA ATGTCGTAAA CGTAGAGGGG CTCTCTGAGT ATTCCAAGAT
       GTACGGCGTT TACAGCATTT GCATCTCCCC GAGAGACTCA TAAGGTTCTA

6301   ATGTAGGGTA GCATCTTCCA CCGCGGATGC TGGCGCGCAC GTAATCGTAT
       TACATCCCAT CGTAGAAGGT GGCGCCTACG ACCGCGCGTG CATTAGCATA

6351   AGTTCGTGCG AGGGAGCGAG GAGGTCGGGA CCGAGGTTGC TACGGGCGGG
       TCAAGCACGC TCCCTCGCTC CTCCAGCCCT GGCTCCAACG ATGCCCGCCC

6401   CTGCTCTGCT CGGAAGACTA TCTGCCTGAA GATGGCATGT GAGTTGGATG
       GACGAGACGA GCCTTCTGAT AGACGGACTT CTACCGTACA CTCAACCTAC

6451   ATATGGTTGG ACGCTGGAAG ACGTTGAAGC TGGCGTCTGT GAGACCTACC
       TATACCAACC TGCGACCTTC TGCAACTTCG ACCGCAGACA CTCTGGATGG

6501   GCGTCACGCA CGAAGGAGGC GTAGGAGTCG CGCAGCTTGT TGACCAGCTC
       CGCAGTGCGT GCTTCCTCCG CATCCTCAGC GCGTCGAACA ACTGGTCGAG

6551   GGCGGTGACC TGCACGTCTA GGGCGCAGTA GTCCAGGGTT TCCTTGATGA
       CCGCCACTGG ACGTGCAGAT CCCGCGTCAT CAGGTCCCAA AGGAACTACT

6601   TGTCATACTT ATCCTGTCCC TTTTTTTTCC ACAGCTCGCG GTTGAGGACA
       ACAGTATGAA TAGGACAGGG AAAAAAAAGG TGTCGAGCGC CAACTCCTGT

6651   AACTCTTCGC GGTCTTTCCA GTACTCTTGG ATCGGAAACC CGTCGGCCTC
       TTGAGAAGCG CCAGAAAGGT CATGAGAACC TAGCCTTTGG GCAGCCGGAG

6701   CGAACGGTAA GAGCCTAGCA TGTAGAACTG GTTGACGGCC TGGTAGGCGC
       GCTTGCCATT CTCGGATCGT ACATCTTGAC CAACTGCCGG ACCATCCGCG
```

FIG.9A-8

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```
6751  AGCATCCCTT  TTCTACGGGT  AGCGCGTATG  CCTGCGCGGC  CTTCCGGAGC
      TCGTAGGGAA  AAGATGCCCA  TCGCGCATAC  GGACGCGCCG  GAAGGCCTCG

6801  GAGGTGTGGG  TGAGCGCAAA  GGTGTCCCTG  ACCATGACTT  TGAGGTACTG
      CTCCACACCC  ACTCGCGTTT  CCACAGGGAC  TGGTACTGAA  ACTCCATGAC

6851  GTATTTGAAG  TCAGTGTCGT  CGCATCCGCC  CTGCTCCCAG  AGCAAAAAGT
      CATAAACTTC  AGTCACAGCA  GCGTAGGCGG  GACGAGGGTC  TCGTTTTTCA

6901  CCGTGCGCTT  TTTGGAACGC  GGATTTGGCA  GGGCGAAGGT  GACATCGTTG
      GGCACGCGAA  AAACCTTGCG  CCTAAACCGT  CCCGCTTCCA  CTGTAGCAAC

6951  AAGAGTATCT  TTCCCGCGCG  AGGCATAAAG  TTGCGTGTGA  TGCGGAAGGG
      TTCTCATAGA  AAGGGCGCGC  TCCGTATTTC  AACGCACACT  ACGCCTTCCC

7001  TCCCGGCACC  TCGGAACGGT  TGTTAATTAC  CTGGGCGGCG  AGCACGATCT
      AGGGCCGTGG  AGCCTTGCCA  ACAATTAATG  GACCCGCCGC  TCGTGCTAGA

7051  CGTCAAAGCC  GTTGATGTTG  TGGCCCACAA  TGTAAAGTTC  CAAGAAGCGC
      GCAGTTTCGG  CAACTACAAC  ACCGGGTGTT  ACATTTCAAG  GTTCTTCGCG

7101  GGGATGCCCT  TGATGGAAGG  CAATTTTTTA  AGTTCCTCGT  AGGTGAGCTC
      CCCTACGGGA  ACTACCTTCC  GTTAAAAAAT  TCAAGGAGCA  TCCACTCGAG

7151  TTCAGGGGAG  CTGAGCCCGT  GCTCTGAAAG  GGCCCAGTCT  GCAAGATGAG
      AAGTCCCCTC  GACTCGGGCA  CGAGACTTTC  CCGGGTCAGA  CGTTCTACTC

7201  GGTTGGAAGC  GACGAATGAG  CTCCACAGGT  CACGGGCCAT  TAGCATTTGC
      CCAACCTTCG  CTGCTTACTC  GAGGTGTCCA  GTGCCCGGTA  ATCGTAAACG

7251  AGGTGGTCGC  GAAAGGTCCT  AAACTGGCGA  CCTATGGCCA  TTTTTTCTGG
      TCCACCAGCG  CTTTCCAGGA  TTTGACCGCT  GGATACCGGT  AAAAAAGACC

7301  GGTGATGCAG  TAGAAGGTAA  GCGGGTCTTG  TTCCCAGCGG  TCCCATCCAA
      CCACTACGTC  ATCTTCCATT  CGCCCAGAAC  AAGGGTCGCC  AGGGTAGGTT

7351  GGTTCGCGGC  TAGGTCTCGC  GCGGCAGTCA  CTAGAGGCTC  ATCTCCGCCG
      CCAAGCGCCG  ATCCAGAGCG  CGCCGTCAGT  GATCTCCGAG  TAGAGGCGGC

7401  AACTTCATGA  CCAGCATGAA  GGGCACGAGC  TGCTTCCCAA  AGGCCCCCAT
      TTGAAGTACT  GGTCGTACTT  CCCGTGCTCG  ACGAAGGGTT  TCCGGGGGTA

7451  CCAAGTATAG  GTCTCTACAT  CGTAGGTGAC  AAAGAGACGC  TCGGTGCGAG
      GGTTCATATC  CAGAGATGTA  GCATCCACTG  TTTCTCTGCG  AGCCACGCTC

7501  GATGCGAGCC  GATCGGGAAG  AACTGGATCT  CCCGCCACCA  ATTGGAGGAG
      CTACGCTCGG  CTAGCCCTTC  TTGACCTAGA  GGGCGGTGGT  TAACCTCCTC

7551  TGGCTATTGA  TGTGGTGAAA  GTAGAAGTCC  CTGCGACGGG  CCGAACACTC
      ACCGATAACT  ACACCACTTT  CATCTTCAGG  GACGCTGCCC  GGCTTGTGAG
```

FIG.9A-9

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```
7601   GTGCTGGCTT TTGTAAAAAC GTGCGCAGTA CTGGCAGCGG TGCACGGGCT
       CACGACCGAA AACATTTTTG CACGCGTCAT GACCGTCGCC ACGTGCCCGA

7651   GTACATCCTG CACGAGGTTG ACCTGACGAC CGCGCACAAG GAAGCAGAGT
       CATGTAGGAC GTGCTCCAAC TGGACTGCTG GCGCGTGTTC CTTCGTCTCA

7701   GGGAATTTGA GCCCCTCGCC TGGCGGGTTT GGCTGGTGGT CTTCTACTTC
       CCCTTAAACT CGGGGAGCGG ACCGCCCAAA CCGACCACCA GAAGATGAAG

7751   GGCTGCTTGT CCTTGACCGT CTGGCTGCTC GAGGGGAGTT ACGGTGGATC
       CCGACGAACA GGAACTGGCA GACCGACGAG CTCCCCTCAA TGCCACCTAG

7801   GGACCACCAC GCCGCGCGAG CCCAAAGTCC AGATGTCCGC GCGCGGCGGT
       CCTGGTGGTG CGGCGCGCTC GGGTTTCAGG TCTACAGGCG CGCGCCGCCA

7851   CGGAGCTTGA TGACAACATC GCGCAGATGG GAGCTGTCCA TGGTCTGGAG
       GCCTCGAACT ACTGTTGTAG CGCGTCTACC CTCGACAGGT ACCAGACCTC

7901   CTCCCGCGGC GTCAGGTCAG GCGGGAGCTC CTGCAGGTTT ACCTCGCATA
       GAGGGCGCCG CAGTCCAGTC CGCCCTCGAG GACGTCCAAA TGGAGCGTAT

7951   GACGGGTCAG GGCGCGGGCT AGATCCAGGT GATACCTAAT TTCCAGGGGC
       CTGCCCAGTC CCGCGCCCGA TCTAGGTCCA CTATGGATTA AAGGTCCCCG

8001   TGGTTGGTGG CGGCGTCGAT GGCTTGCAAG AGGCCGCATC CCCGCGGCGC
       ACCAACCACC GCCGCAGCTA CCGAACGTTC TCCGGCGTAG GGGCGCCGCG

8051   GACTACGGTA CCGCGCGGCG GGCGGTGGGC CGCGGGGGTG TCCTTGGATG
       CTGATGCCAT GGCGCGCCGC CCGCCACCCG GCGCCCCCAC AGGAACCTAC

8101   ATGCATCTAA AAGCGGTGAC GCGGGCGAGC CCCCGGAGGT AGGGGGGGCT
       TACGTAGATT TTCGCCACTG CGCCCGCTCG GGGGCCTCCA TCCCCCCCGA

8151   CCGGACCCGC CGGGAGAGGG GGCAGGGGCA CGTCGGCGCC GCGCGCGGGC
       GGCCTGGGCG GCCCTCTCCC CCGTCCCCGT GCAGCCGCGG CGCGCGCCCG

8201   AGGAGCTGGT GCTGCGCGCG TAGGTTGCTG GCGAACGCGA CGACGCGGCG
       TCCTCGACCA CGACGCGCGC ATCCAACGAC CGCTTGCGCT GCTGCGCCGC

8251   GTTGATCTCC TGAATCTGGC GCCTCTGCGT GAAGACGACG GGCCCGGTGA
       CAACTAGAGG ACTTAGACCG CGGAGACGCA CTTCTGCTGC CCGGGCCACT

8301   GCTTGAACCT GAAAGAGAGT TCGACAGAAT CAATTTCGGT GTCGTTGACG
       CGAACTTGGA CTTTCTCTCA AGCTGTCTTA GTTAAAGCCA CAGCAACTGC

8351   GCGGCCTGGC GCAAAATCTC CTGCACGTCT CCTGAGTTGT CTTGATAGGC
       CGCCGGACCG CGTTTTAGAG GACGTGCAGA GGACTCAACA GAACTATCCG

8401   GATCTCGGCC ATGAACTGCT CGATCTCTTC CTCCTGGAGA TCTCCGCGTC
       CTAGAGCCGG TACTTGACGA GCTAGAGAAG GAGGACCTCT AGAGGCGCAG
```

FIG.9A-10

```
8451   CGGCTCGCTC CACGGTGGCG GCGAGGTCGT TGGAAATGCG GGCCATGAGC
       GCCGAGCGAG GTGCCACCGC CGCTCCAGCA ACCTTTACGC CCGGTACTCG

8501   TGCGAGAAGG CGTTGAGGCC TCCCTCGTTC CAGACGCGGC TGTAGACCAC
       ACGCTCTTCC GCAACTCCGG AGGGAGCAAG GTCTGCGCCG ACATCTGGTG

8551   GCCCCCTTCG GCATCGCGGG CGCGCATGAC CACCTGCGCG AGATTGAGCT
       CGGGGGAAGC CGTAGCGCCC GCGCGTACTG GTGGACGCGC TCTAACTCGA

8601   CCACGTGCCG GGCGAAGACG GCGTAGTTTC GCAGGCGCTG AAAGAGGTAG
       GGTGCACGGC CCGCTTCTGC CGCATCAAAG CGTCCGCGAC TTTCTCCATC

8651   TTGAGGGTGG TGGCGGTGTG TTCTGCCACG AAGAAGTACA TAACCCAGCG
       AACTCCCACC ACCGCCACAC AAGACGGTGC TTCTTCATGT ATTGGGTCGC

8701   TCGCAACGTG GATTCGTTGA TATCCCCCAA GGCCTCAAGG CGCTCCATGG
       AGCGTTGCAC CTAAGCAACT ATAGGGGGTT CCGGAGTTCC GCGAGGTACC

8751   CCTCGTAGAA GTCCACGGCG AAGTTGAAAA ACTGGGAGTT GCGCGCCGAC
       GGAGCATCTT CAGGTGCCGC TTCAACTTTT TGACCCTCAA CGCGCGGCTG

8801   ACGGTTAACT CCTCCTCCAG AAGACGGATG AGCTCGGCGA CAGTGTCGCG
       TGCCAATTGA GGAGGAGGTC TTCTGCCTAC TCGAGCCGCT GTCACAGCGC

8851   CACCTCGCGC TCAAAGGCTA CAGGGGCCTC TTCTTCTTCT TCAATCTCCT
       GTGGAGCGCG AGTTTCCGAT GTCCCCGGAG AAGAAGAAGA AGTTAGAGGA

8901   CTTCCATAAG GGCCTCCCCT TCTTCTTCTT CTGGCGGCGG TGGGGGAGGG
       GAAGGTATTC CCGGAGGGGA AGAAGAAGAA GACCGCCGCC ACCCCCTCCC

8951   GGGACACGGC GGCGACGACG GCGCACCGGG AGGCGGTCGA CAAAGCGCTC
       CCCTGTGCCG CCGCTGCTGC CGCGTGGCCC TCCGCCAGCT GTTTCGCGAG

9001   GATCATCTCC CCGCGGCGAC GGCGCATGGT CTCGGTGACG GCGCGGCCGT
       CTAGTAGAGG GGCGCCGCTG CCGCGTACCA GAGCCACTGC CGCGCCGGCA

9051   TCTCGCGGGG GCGCAGTTGG AAGACGCCGC CCGTCATGTC CCGGTTATGG
       AGAGCGCCCC CGCGTCAACC TTCTGCGGCG GGCAGTACAG GGCCAATACC

9101   GTTGGCGGGG GGCTGCCATG CGGCAGGGAT ACGGCGCTAA CGATGCATCT
       CAACCGCCCC CCGACGGTAC GCCGTCCCTA TGCCGCGATT GCTACGTAGA

9151   CAACAATTGT TGTGTAGGTA CTCCGCCGCC GAGGGACCTG AGCGAGTCCG
       GTTGTTAACA ACACATCCAT GAGGCGGCGG CTCCCTGGAC TCGCTCAGGC

9201   CATCGACCGG ATCGGAAAAC CTCTCGAGAA AGGCGTCTAA CCAGTCACAG
       GTAGCTGGCC TAGCCTTTTG GAGAGCTCTT TCCGCAGATT GGTCAGTGTC

9251   TCGCAAGGTA GGCTGAGCAC CGTGGCGGGC GGCAGCGGGC GGCGGTCGGG
       AGCGTTCCAT CCGACTCGTG GCACCGCCCG CCGTCGCCCG CCGCCAGCCC
```

FIG.9A-11

```
9301  GTTGTTTCTG GCGGAGGTGC TGCTGATGAT GTAATTAAAG TAGGCGGTCT
      CAACAAAGAC CGCCTCCACG ACGACTACTA CATTAATTTC ATCCGCCAGA

9351  TGAGACGGCG GATGGTCGAC AGAAGCACCA TGTCCTTGGG TCCGGCCTGC
      ACTCTGCCGC CTACCAGCTG TCTTCGTGGT ACAGGAACCC AGGCCGGACG

9401  TGAATGCGCA GGCGGTCGGC CATGCCCCAG GCTTCGTTTT GACATCGGCG
      ACTTACGCGT CCGCCAGCCG GTACGGGGTC CGAAGCAAAA CTGTAGCCGC

9451  CAGGTCTTTG TAGTAGTCTT GCATGAGCCT TTCTACCGGC ACTTCTTCTT
      GTCCAGAAAC ATCATCAGAA CGTACTCGGA AAGATGGCCG TGAAGAAGAA

9501  CTCCTTCCTC TTGTCCTGCA TCTCTTGCAT CTATCGCTGC GGCGGCGGCG
      GAGGAAGGAG AACAGGACGT AGAGAACGTA GATAGCGACG CCGCCGCCGC

9551  GAGTTTGGCC GTAGGTGGCG CCCTCTTCCT CCCATGCGTG TGACCCCGAA
      CTCAAACCGG CATCCACCGC GGGAGAAGGA GGGTACGCAC ACTGGGCTT

9601  GCCCCTCATC GGCTGAAGCA GGGCTAGGTC GGCGACAACG CGCTCGGCTA
      CGGGGAGTAG CCGACTTCGT CCCGATCCAG CCGCTGTTGC GCGAGCCGAT

9651  ATATGGCCTG CTGCACCTGC GTGAGGGTAG ACTGGAAGTC ATCCATGTCC
      TATACCGGAC GACGTGGACG CACTCCCATC TGACCTTCAG TAGGTACAGG

9701  ACAAAGCGGT GGTATGCGCC CGTGTTGATG GTGTAAGTGC AGTTGGCCAT
      TGTTTCGCCA CCATACGCGG GCACAACTAC CACATTCACG TCAACCGGTA

9751  AACGGACCAG TTAACGGTCT GGTGACCCGG CTGCGAGAGC TCGGTGTACC
      TTGCCTGGTC AATTGCCAGA CCACTGGGCC GACGCTCTCG AGCCACATGG

9801  TGAGACGCGA GTAAGCCCTC GAGTCAAATA CGTAGTCGTT GCAAGTCCGC
      ACTCTGCGCT CATTCGGGAG CTCAGTTTAT GCATCAGCAA CGTTCAGGCG

9851  ACCAGGTACT GGTATCCCAC CAAAAAGTGC GGCGGCGGCT GGCGGTAGAG
      TGGTCCATGA CCATAGGGTG GTTTTTCACG CCGCCGCCGA CCGCCATCTC

9901  GGGCCAGCGT AGGGTGGCCG GGGCTCCGGG GGCGAGATCT TCCAACATAA
      CCCGGTCGCA TCCCACCGGC CCCGAGGCCC CCGCTCTAGA AGGTTGTATT

9951  GGCGATGATA TCCGTAGATG TACCTGGACA TCCAGGTGAT GCCGGCGGCG
      CCGCTACTAT AGGCATCTAC ATGGACCTGT AGGTCCACTA CGGCCGCCGC

10001 GTGGTGGAGG CGCGCGGAAA GTCGCGGACG CGGTTCCAGA TGTTGCGCAG
      CACCACCTCC GCGCGCCTTT CAGCGCCTGC GCCAAGGTCT ACAACGCGTC

10051 CGGCAAAAAG TGCTCCATGG TCGGGACGCT CTGGCCGGTC AGGCGCGCGC
      GCCGTTTTTC ACGAGGTACC AGCCCTGCGA GACCGGCCAG TCCGCGCGCG

10101 AATCGTTGAC GCTCTAGACC GTGCAAAAGG AGAGCCTGTA AGCGGGCACT
      TTAGCAACTG CGAGATCTGG CACGTTTTCC TCTCGGACAT TCGCCCGTGA
```

FIG.9A-12

```
10151   CTTCCGTGGT CTGGTGGATA AATTCGCAAG GGTATCATGG CGGACGACCG
        GAAGGCACCA GACCACCTAT TTAAGCGTTC CCATAGTACC GCCTGCTGGC

10201   GGGTTCGAGC CCCGTATCCG GCCGTCCGCC GTGATCCATG CGGTTACCGC
        CCCAAGCTCG GGGCATAGGC CGGCAGGCGG CACTAGGTAC GCCAATGGCG

10251   CCGCGTGTCG AACCCAGGTG TGCGACGTCA GACAACGGGG GAGTGCTCCT
        GGCGCACAGC TTGGGTCCAC ACGCTGCAGT CTGTTGCCCC CTCACGAGGA

10301   TTTGGCTTCC TTCCAGGCGC GGCGGCTGCT GCGCTAGCTT TTTTGGCCAC
        AAACCGAAGG AAGGTCCGCG CCGCCGACGA CGCGATCGAA AAAACCGGTG

10351   TGGCCGCGCG CAGCGTAAGC GGTTAGGCTG GAAAGCGAAA GCATTAAGTG
        ACCGGCGCGC GTCGCATTCG CCAATCCGAC CTTTCGCTTT CGTAATTCAC

10401   GCTCGCTCCC TGTAGCCGGA GGGTTATTTT CCAAGGGTTG AGTCGCGGGA
        CGAGCGAGGG ACATCGGCCT CCCAATAAAA GGTTCCCAAC TCAGCGCCCT

10451   CCCCCGGTTC GAGTCTCGGA CCGGCCGGAC TGCGGCGAAC GGGGGTTTGC
        GGGGGCCAAG CTCAGAGCCT GGCCGGCCTG ACGCCGCTTG CCCCCAAACG

10501   CTCCCCGTCA TGCAAGACCC CGCTTGCAAA TTCCTCCGGA AACAGGGACG
        GAGGGGCAGT ACGTTCTGGG GCGAACGTTT AAGGAGGCCT TTGTCCCTGC

10551   AGCCCCTTTT TTGCTTTTCC CAGATGCATC CGGTGCTGCG GCAGATGCGC
        TCGGGGAAAA AACGAAAAGG GTCTACGTAG GCCACGACGC CGTCTACGCG

10601   CCCCCTCCTC AGCAGCGGCA AGAGCAAGAG CAGCGGCAGA CATGCAGGGC
        GGGGGAGGAG TCGTCGCCGT TCTCGTTCTC GTCGCCGTCT GTACGTCCCG

10651   ACCCTCCCCT CCTCCTACCG CGTCAGGAGG GGCGACATCC GCGGTTGACG
        TGGGAGGGGA GGAGGATGGC GCAGTCCTCC CCGCTGTAGG CGCCAACTGC

10701   CGGCAGCAGA TGGTGATTAC GAACCCCCGC GGCGCCGGGC CCGGCACTAC
        GCCGTCGTCT ACCACTAATG CTTGGGGGCG CCGCGGCCCG GGCCGTGATG

10751   CTGGACTTGG AGGAGGGCGA GGGCCTGGCG CGGCTAGGAG CGCCCTCTCC
        GACCTGAACC TCCTCCCGCT CCCGGACCGC GCCGATCCTC GCGGGAGAGG

10801   TGAGCGGCAC CCAAGGGTGC AGCTGAAGCG TGATACGCGT GAGGCGTACG
        ACTCGCCGTG GGTTCCCACG TCGACTTCGC ACTATGCGCA CTCCGCATGC

10851   TGCCGCGGCA GAACCTGTTT CGCGACCGCG AGGGAGAGGA GCCCGAGGAG
        ACGGCGCCGT CTTGGACAAA GCGCTGGCGC TCCCTCTCCT CGGGCTCCTC

10901   ATGCGGGATC GAAAGTTCCA CGCAGGGCGC GAGCTGCGGC ATGGCCTGAA
        TACGCCCTAG CTTTCAAGGT GCGTCCCGCG CTCGACGCCG TACCGGACTT

10951   TCGCGAGCGG TTGCTGCGCG AGGAGGACTT TGAGCCCGAC GCGCGAACCG
        AGCGCTCGCC AACGACGCGC TCCTCCTGAA ACTCGGGCTG CGCGCTTGGC
```

FIG.9A-13

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11001   GGATTAGTCC CGCGCGCGCA CACGTGGCGG CCGCCGACCT GGTAACCGCA
         CCTAATCAGG GCGCGCGCGT GTGCACCGCC GGCGGCTGGA CCATTGGCGT

11051   TACGAGCAGA CGGTGAACCA GGAGATTAAC TTTCAAAAAA GCTTTAACAA
         ATGCTCGTCT GCCACTTGGT CCTCTAATTG AAAGTTTTTT CGAAATTGTT

11101   CCACGTGCGT ACGCTTGTGG CGCGCGAGGA GGTGGCTATA GGACTGATGC
         GGTGCACGCA TGCGAACACC GCGCGCTCCT CCACCGATAT CCTGACTACG

11151   ATCTGTGGGA CTTTGTAAGC GCGCTGGAGC AAAACCCAAA TAGCAAGCCG
         TAGACACCCT GAAACATTCG CGCGACCTCG TTTTGGGTTT ATCGTTCGGC

11201   CTCATGGCGC AGCTGTTCCT TATAGTGCAG CACAGCAGGG ACAACGAGGC
         GAGTACCGCG TCGACAAGGA ATATCACGTC GTGTCGTCCC TGTTGCTCCG

11251   ATTCAGGGAT GCGCTGCTAA ACATAGTAGA GCCCGAGGGC CGCTGGCTGC
         TAAGTCCCTA CGCGACGATT TGTATCATCT CGGGCTCCCG GCGACCGACG

11301   TCGATTTGAT AAACATCCTG CAGAGCATAG TGGTGCAGGA GCGCAGCTTG
         AGCTAAACTA TTTGTAGGAC GTCTCGTATC ACCACGTCCT CGCGTCGAAC

11351   AGCCTGGCTG ACAAGGTGGC CGCCATCAAC TATTCCATGC TTAGCCTGGG
         TCGGACCGAC TGTTCCACCG GCGGTAGTTG ATAAGGTACG AATCGGACCC

11401   CAAGTTTTAC GCCCGCAAGA TATACCATAC CCCTTACGTT CCCATAGACA
         GTTCAAAATG CGGGCGTTCT ATATGGTATG GGGAATGCAA GGGTATCTGT

11451   AGGAGGTAAA GATCGAGGGG TTCTACATGC GCATGGCGCT GAAGGTGCTT
         TCCTCCATTT CTAGCTCCCC AAGATGTACG CGTACCGCGA CTTCCACGAA

11501   ACCTTGAGCG ACGACCTGGG CGTTTATCGC AACGAGCGCA TCCACAAGGC
         TGGAACTCGC TGCTGGACCC GCAAATAGCG TTGCTCGCGT AGGTGTTCCG

11551   CGTGAGCGTG AGCCGGCGGC GCGAGCTCAG CGACCGCGAG CTGATGCACA
         GCACTCGCAC TCGGCCGCCG CGCTCGAGTC GCTGGCGCTC GACTACGTGT

11601   GCCTGCAAAG GGCCCTGGCT GGCACGGGCA GCGGCGATAG AGAGGCCGAG
         CGGACGTTTC CCGGGACCGA CCGTGCCCGT CGCCGCTATC TCTCCGGCTC

11651   TCCTACTTTG ACGCGGGCGC TGACCTGCGC TGGGCCCCAA GCCGACGCGC
         AGGATGAAAC TGCGCCCGCG ACTGGACGCG ACCCGGGGTT CGGCTGCGCG

11701   CCTGGAGGCA GCTGGGGCCG GACCTGGGCT GGCGGTGGCA CCCGCGCGCG
         GGACCTCCGT CGACCCCGGC CTGGACCCGA CCGCCACCGT GGGCGCGCGC

11751   CTGGCAACGT CGGCGGCGTG GAGGAATATG ACGAGGACGA TGAGTACGAG
         GACCGTTGCA GCCGCCGCAC CTCCTTATAC TGCTCCTGCT ACTCATGCTC

11801   CCAGAGGACG GCGAGTACTA AGCGGTGATG TTTCTGATCA GATGATGCAA
         GGTCTCCTGC CGCTCATGAT TCGCCACTAC AAAGACTAGT CTACTACGTT

FIG.9A-14

11851   GACGCAACGG ACCCGGCGGT GCGGGCGGCG CTGCAGAGCC AGCCGTCCGG
           CTGCGTTGCC TGGGCCGCCA CGCCCGCCGC GACGTCTCGG TCGGCAGGCC

11901   CCTTAACTCC ACGGACGACT GGCGCCAGGT CATGGACCGC ATCATGTCGC
           GGAATTGAGG TGCCTGCTGA CCGCGGTCCA GTACCTGGCG TAGTACAGCG

11951   TGACTGCGCG CAATCCTGAC GCGTTCCGGC AGCAGCCGCA GGCCAACCGG
           ACTGACGCGC GTTAGGACTG CGCAAGGCCG TCGTCGGCGT CCGGTTGGCC

12001   CTCTCCGCAA TTCTGGAAGC GGTGGTCCCG GCGCGCGCAA ACCCCACGCA
           GAGAGGCGTT AAGACCTTCG CCACCAGGGC CGCGCGCGTT TGGGGTGCGT

12051   CGAGAAGGTG CTGGCGATCG TAAACGCGCT GGCCGAAAAC AGGGCCATCC
           GCTCTTCCAC GACCGCTAGC ATTTGCGCGA CCGGCTTTTG TCCCGGTAGG

12101   GGCCCGACGA GGCCGGCCTG GTCTACGACG CGCTGCTTCA GCGCGTGGCT
           CCGGGCTGCT CCGGCCGGAC CAGATGCTGC GCGACGAAGT CGCGCACCGA

12151   CGTTACAACA GCGGCAACGT GCAGACCAAC CTGGACCGGC TGGTGGGGGA
           GCAATGTTGT CGCCGTTGCA CGTCTGGTTG GACCTGGCCG ACCACCCCCT

12201   TGTGCGCGAG GCCGTGGCGC AGCGTGAGCG CGCGCAGCAG CAGGGCAACC
           ACACGCGCTC CGGCACCGCG TCGCACTCGC GCGCGTCGTC GTCCCGTTGG

12251   TGGGCTCCAT GGTTGCACTA AACGCCTTCC TGAGTACACA GCCCGCCAAC
           ACCCGAGGTA CCAACGTGAT TTGCGGAAGG ACTCATGTGT CGGGCGGTTG

12301   GTGCCGCGGG GACAGGAGGA CTACACCAAC TTTGTGAGCG CACTGCGGCT
           CACGGCGCCC CTGTCCTCCT GATGTGGTTG AAACACTCGC GTGACGCCGA

12351   AATGGTGACT GAGACACCGC AAAGTGAGGT GTACCAGTCT GGGCCAGACT
           TTACCACTGA CTCTGTGGCG TTTCACTCCA CATGGTCAGA CCCGGTCTGA

12401   ATTTTTTTCCA GACCAGTAGA CAAGGCCTGC AGACCGTAAA CCTGAGCCAG
           TAAAAAAGGT CTGGTCATCT GTTCCGGACG TCTGGCATTT GGACTCGGTC

12451   GCTTTCAAAA ACTTGCAGGG GCTGTGGGGG GTGCGGGCTC CCACAGGCGA
           CGAAAGTTTT TGAACGTCCC CGACACCCCC CACGCCCGAG GGTGTCCGCT

12501   CCGCGCGACC GTGTCTAGCT TGCTGACGCC CAACTCGCGC CTGTTGCTGC
           GGCGCGCTGG CACAGATCGA ACGACTGCGG GTTGAGCGCG GACAACGACG

12551   TGCTAATAGC GCCCTTCACG GACAGTGGCA GCGTGTCCCG GGACACATAC
           ACGATTATCG CGGGAAGTGC CTGTCACCGT CGCACAGGGC CCTGTGTATG

12601   CTAGGTCACT TGCTGACACT GTACCGCGAG GCCATAGGTC AGGCGCATGT
           GATCCAGTGA ACGACTGTGA CATGGCGCTC CGGTATCCAG TCCGCGTACA

12651   GGACGAGCAT ACTTTCCAGG AGATTACAAG TGTCAGCCGC GCGCTGGGGC
           CCTGCTCGTA TGAAAGGTCC TCTAATGTTC ACAGTCGGCG CGCGACCCCG

FIG.9A-15

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12701   AGGAGGACAC GGGCAGCCTG GAGGCAACCC TAAACTACCT GCTGACCAAC
          TCCTCCTGTG CCCGTCGGAC CTCCGTTGGG ATTTGATGGA CGACTGGTTG

12751   CGGCGGCAGA AGATCCCCTC GTTGCACAGT TTAAACAGCG AGGAGGAGCG
          GCCGCCGTCT TCTAGGGGAG CAACGTGTCA AATTTGTCGC TCCTCCTCGC

12801   CATTTTGCGC TACGTGCAGC AGAGCGTGAG CCTTAACCTG ATGCGCGACG
          GTAAAACGCG ATGCACGTCG TCTCGCACTC GGAATTGGAC TACGCGCTGC

12851   GGGTAACGCC CAGCGTGGCG CTGGACATGA CCGCGCGCAA CATGGAACCG
          CCCATTGCGG GTCGCACCGC GACCTGTACT GGCGCGCGTT GTACCTTGGC

12901   GGCATGTATG CCTCAAACCG GCCGTTTATC AACCGCCTAA TGGACTACTT
          CCGTACATAC GGAGTTTGGC CGGCAAATAG TTGGCGGATT ACCTGATGAA

12951   GCATCGCGCG GCCGCCGTGA ACCCCGAGTA TTTCACCAAT GCCATCTTGA
          CGTAGCGCGC CGGCGGCACT TGGGGCTCAT AAAGTGGTTA CGGTAGAACT

13001   ACCCGCACTG GCTACCGCCC CCTGGTTTCT ACACCGGGGG ATTCGAGGTG
          TGGGCGTGAC CGATGGCGGG GGACCAAAGA TGTGGCCCCC TAAGCTCCAC

13051   CCCGAGGGTA ACGATGGATT CCTCTGGGAC GACATAGACG ACAGCGTGTT
          GGGCTCCCAT TGCTACCTAA GGAGACCCTG CTGTATCTGC TGTCGCACAA

13101   TTCCCCGCAA CCGCAGACCC TGCTAGAGTT GCAACAGCGC GAGCAGGCAG
          AAGGGGCGTT GGCGTCTGGG ACGATCTCAA CGTTGTCGCG CTCGTCCGTC

13151   AGGCGGCGCT GCGAAAGGAA AGCTTCCGCA GGCCAAGCAG CTTGTCCGAT
          TCCGCCGCGA CGCTTTCCTT TCGAAGGCGT CCGGTTCGTC GAACAGGCTA

13201   CTAGGCGCTG CGGCCCCGCG GTCAGATGCT AGTAGCCCAT TTCCAAGCTT
          GATCCGCGAC GCCGGGGCGC CAGTCTACGA TCATCGGGTA AAGGTTCGAA

13251   GATAGGGTCT CTTACCAGCA CTCGCACCAC CCGCCCGCGC CTGCTGGGCG
          CTATCCCAGA GAATGGTCGT GAGCGTGGTG GGCGGGCGCG GACGACCCGC

13301   AGGAGGAGTA CCTAAACAAC TCGCTGCTGC AGCCGCAGCG CGAAAAAAAC
          TCCTCCTCAT GGATTTGTTG AGCGACGACG TCGGCGTCGC GCTTTTTTTG

13351   CTGCCTCCGG CATTTCCCAA CAACGGGATA GAGAGCCTAG TGGACAAGAT
          GACGGAGGCC GTAAAGGGTT GTTGCCCTAT CTCTCGGATC ACCTGTTCTA

13401   GAGTAGATGG AAGACGTACG CGCAGGAGCA CAGGGACGTG CCAGGCCCGC
          CTCATCTACC TTCTGCATGC GCGTCCTCGT GTCCCTGCAC GGTCCGGGCG

13451   GCCCGCCCAC CCGTCGTCAA AGGCACGACC GTCAGCGGGG TCTGGTGTGG
          CGGGCGGGTG GGCAGCAGTT TCCGTGCTGG CAGTCGCCCC AGACCACACC

13501   GAGGACGATG ACTCGGCAGA CGACAGCAGC GTCCTGGATT TGGGAGGGAG
          CTCCTGCTAC TGAGCCGTCT GCTGTCGTCG CAGGACCTAA ACCCTCCCTC

FIG.9A-16

13551 TGGCAACCCG TTTGCGCACC TTCGCCCCAG GCTGGGGAGA ATGTTTTAAA
       ACCGTTGGGC AAACGCGTGG AAGCGGGGTC CGACCCCTCT TACAAAATTT

13601 AAAAAAAAAA GCATGATGCA AAATAAAAAA CTCACCAAGG CCATGGCACC
       TTTTTTTTTT CGTACTACGT TTTATTTTTT GAGTGGTTCC GGTACCGTGG

13651 GAGCGTTGGT TTTCTTGTAT TCCCCTTAGT ATGCGGCGCG CGGCGATGTA
       CTCGCAACCA AAAGAACATA AGGGGAATCA TACGCCGCGC GCCGCTACAT

13701 TGAGGAAGGT CCTCCTCCCT CCTACGAGAG TGTGGTGAGC GCGGCGCCAG
       ACTCCTTCCA GGAGGAGGGA GGATGCTCTC ACACCACTCG CGCCGCGGTC

13751 TGGCGGCGGC GCTGGGTTCT CCCTTCGATG CTCCCCTGGA CCCGCCGTTT
       ACCGCCGCCG CGACCCAAGA GGGAAGCTAC GAGGGGACCT GGGCGGCAAA

13801 GTGCCTCCGC GGTACCTGCG GCCTACCGGG GGGAGAAACA GCATCCGTTA
       CACGGAGGCG CCATGGACGC CGGATGGCCC CCCTCTTTGT CGTAGGCAAT

13851 CTCTGAGTTG GCACCCCTAT TCGACACCAC CCGTGTGTAC CTGGTGGACA
       GAGACTCAAC CGTGGGGATA AGCTGTGGTG GGCACACATG GACCACCTGT

13901 ACAAGTCAAC GGATGTGGCA TCCCTGAACT ACCAGAACGA CCACAGCAAC
       TGTTCAGTTG CCTACACCGT AGGGACTTGA TGGTCTTGCT GGTGTCGTTG

13951 TTTCTGACCA CGGTCATTCA AAACAATGAC TACAGCCCGG GGGAGGCAAG
       AAAGACTGGT GCCAGTAAGT TTTGTTACTG ATGTCGGGCC CCCTCCGTTC

14001 CACACAGACC ATCAATCTTG ACGACCGGTC GCACTGGGGC GGCGACCTGA
       GTGTGTCTGG TAGTTAGAAC TGCTGGCCAG CGTGACCCCG CCGCTGGACT

14051 AAACCATCCT GCATACCAAC ATGCCAAATG TGAACGAGTT CATGTTTACC
       TTTGGTAGGA CGTATGGTTG TACGGTTTAC ACTTGCTCAA GTACAAATGG

14101 AATAAGTTTA AGGCGCGGGT GATGGTGTCG CGCTTGCCTA CTAAGGACAA
       TTATTCAAAT TCCGCGCCCA CTACCACAGC GCGAACGGAT GATTCCTGTT

14151 TCAGGTGGAG CTGAAATACG AGTGGGTGGA GTTCACGCTG CCCGAGGGCA
       AGTCCACCTC GACTTTATGC TCACCCACCT CAAGTGCGAC GGGCTCCCGT

14201 ACTACTCCGA GACCATGACC ATAGACCTTA TGAACAACGC GATCGTGGAG
       TGATGAGGCT CTGGTACTGG TATCTGGAAT ACTTGTTGCG CTAGCACCTC

14251 CACTACTTGA AAGTGGGCAG ACAGAACGGG GTTCTGGAAA GCGACATCGG
       GTGATGAACT TTCACCCGTC TGTCTTGCCC CAAGACCTTT CGCTGTAGCC

14301 GGTAAAGTTT GACACCCGCA ACTTCAGACT GGGGTTTGAC CCCGTCACTG
       CCATTTCAAA CTGTGGGCGT TGAAGTCTGA CCCCAAACTG GGGCAGTGAC

14351 GTCTTGTCAT GCCTGGGGTA TATACAAACG AAGCCTTCCA TCCAGACATC
       CAGAACAGTA CGGACCCCAT ATATGTTTGC TTCGGAAGGT AGGTCTGTAG

FIG.9A-17

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14401 ATTTTGCTGC CAGGATGCGG GGTGGACTTC ACCCACAGCC GCCTGAGCAA
      TAAAACGACG GTCCTACGCC CCACCTGAAG TGGGTGTCGG CGGACTCGTT

14451 CTTGTTGGGC ATCCGCAAGC GGCAACCCTT CCAGGAGGGC TTTAGGATCA
      GAACAACCCG TAGGCGTTCG CCGTTGGGAA GGTCCTCCCG AAATCCTAGT

14501 CCTACGATGA TCTGGAGGGT GGTAACATTC CCGCACTGTT GGATGTGGAC
      GGATGCTACT AGACCTCCCA CCATTGTAAG GGCGTGACAA CCTACACCTG

14551 GCCTACCAGG CGAGCTTGAA AGATGACACC GAACAGGGCG GGGGTGGCGC
      CGGATGGTCC GCTCGAACTT TCTACTGTGG CTTGTCCCGC CCCCACCGCG

14601 AGGCGGCAGC AACAGCAGTG GCAGCGGCGC GGAAGAGAAC TCCAACGCGG
      TCCGCCGTCG TTGTCGTCAC CGTCGCCGCG CCTTCTCTTG AGGTTGCGCC

14651 CAGCCGCGGC AATGCAGCCG GTGGAGGACA TGAACGATCA TGCCATTCGC
      GTCGGCGCCG TTACGTCGGC CACCTCCTGT ACTTGCTAGT ACGGTAAGCG

14701 GGCGACACCT TTGCCACACG GGCTGAGGAG AAGCGCGCTG AGGCCGAAGC
      CCGCTGTGGA AACGGTGTGC CCGACTCCTC TTCGCGCGAC TCCGGCTTCG

14751 AGCGGCCGAA GCTGCCGCCC CCGCTGCGCA ACCCGAGGTC GAGAAGCCTC
      TCGCCGGCTT CGACGGCGGG GGCGACGCGT TGGGCTCCAG CTCTTCGGAG

14801 AGAAGAAACC GGTGATCAAA CCCCTGACAG AGGACAGCAA GAAACGCAGT
      TCTTCTTTGG CCACTAGTTT GGGGACTGTC TCCTGTCGTT CTTTGCGTCA

14851 TACAACCTAA TAAGCAATGA CAGCACCTTC ACCCAGTACC GCAGCTGGTA
      ATGTTGGATT ATTCGTTACT GTCGTGGAAG TGGGTCATGG CGTCGACCAT

14901 CCTTGCATAC AACTACGGCG ACCCTCAGAC CGGAATCCGC TCATGGACCC
      GGAACGTATG TTGATGCCGC TGGGAGTCTG GCCTTAGGCG AGTACCTGGG

14951 TGCTTTGCAC TCCTGACGTA ACCTGCGGCT CGGAGCAGGT CTACTGGTCG
      ACGAAACGTG AGGACTGCAT TGGACGCCGA GCCTCGTCCA GATGACCAGC

15001 TTGCCAGACA TGATGCAAGA CCCCGTGACC TTCCGCTCCA CGCGCCAGAT
      AACGGTCTGT ACTACGTTCT GGGGCACTGG AAGGCGAGGT GCGCGGTCTA

15051 CAGCAACTTT CCGGTGGTGG GCGCCGAGCT GTTGCCCGTG CACTCCAAGA
      GTCGTTGAAA GGCCACCACC CGCGGCTCGA CAACGGGCAC GTGAGGTTCT

15101 GCTTCTACAA CGACCAGGCC GTCTACTCCC AACTCATCCG CCAGTTTACC
      CGAAGATGTT GCTGGTCCGG CAGATGAGGG TTGAGTAGGC GGTCAAATGG

15151 TCTCTGACCC ACGTGTTCAA TCGCTTTCCC GAGAACCAGA TTTTGGCGCG
      AGAGACTGGG TGCACAAGTT AGCGAAAGGG CTCTTGGTCT AAAACCGCGC

15201 CCCGCCAGCC CCCACCATCA CCACCGTCAG TGAAAACGTT CCTGCTCTCA
      GGGCGGTCGG GGGTGGTAGT GGTGGCAGTC ACTTTTGCAA GGACGAGAGT

FIG.9A-18

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15251  CAGATCACGG  GACGCTACCG  CTGCGCAACA  GCATCGGAGG  AGTCCAGCGA
       GTCTAGTGCC  CTGCGATGGC  GACGCGTTGT  CGTAGCCTCC  TCAGGTCGCT

15301  GTGACCATTA  CTGACGCCAG  ACGCCGCACC  TGCCCCTACG  TTTACAAGGC
       CACTGGTAAT  GACTGCGGTC  TGCGGCGTGG  ACGGGGATGC  AAATGTTCCG

15351  CCTGGGCATA  GTCTCGCCGC  GCGTCCTATC  GAGCCGCACT  TTTTGAGCAA
       GGACCCGTAT  CAGAGCGGCG  CGCAGGATAG  CTCGGCGTGA  AAAACTCGTT

15401  GCATGTCCAT  CCTTATATCG  CCCAGCAATA  ACACAGGCTG  GGGCCTGCGC
       CGTACAGGTA  GGAATATAGC  GGGTCGTTAT  TGTGTCCGAC  CCCGGACGCG

15451  TTCCCAAGCA  AGATGTTTGG  CGGGGCCAAG  AAGCGCTCCG  ACCAACACCC
       AAGGGTTCGT  TCTACAAACC  GCCCCGGTTC  TTCGCGAGGC  TGGTTGTGGG

15501  AGTGCGCGTG  CGCGGGCACT  ACCGCGCGCC  CTGGGGCGCG  CACAAACGCG
       TCACGCGCAC  GCGCCCGTGA  TGGCGCGCGG  GACCCCGCGC  GTGTTTGCGC

15551  GCCGCACTGG  GCGCACCACC  GTCGATGACG  CCATCGACGC  GGTGGTGGAG
       CGGCGTGACC  CGCGTGGTGG  CAGCTACTGC  GGTAGCTGCG  CCACCACCTC

15601  GAGGCGCGCA  ACTACACGCC  CACGCCGCCA  CCAGTGTCCA  CAGTGGACGC
       CTCCGCGCGT  TGATGTGCGG  GTGCGGCGGT  GGTCACAGGT  GTCACCTGCG

15651  GGCCATTCAG  ACCGTGGTGC  GCGGAGCCCG  GCGCTATGCT  AAAATGAAGA
       CCGGTAAGTC  TGGCACCACG  CGCCTCGGGC  CGCGATACGA  TTTTACTTCT

15701  GACGGCGGAG  GCGCGTAGCA  CGTCGCCACC  GCCGCCGACC  CGGCACTGCC
       CTGCCGCCTC  CGCGCATCGT  GCAGCGGTGG  CGGCGGCTGG  GCCGTGACGG

15751  GCCCAACGCG  CGGCGGCGGC  CCTGCTTAAC  CGCGCACGTC  GCACCGGCCG
       CGGGTTGCGC  GCCGCCGCCG  GGACGAATTG  GCGCGTGCAG  CGTGGCCGGC

15801  ACGGGCGGCC  ATGCGGGCCG  CTCGAAGGCT  GGCCGCGGGT  ATTGTCACTG
       TGCCCGCCGG  TACGCCCGGC  GAGCTTCCGA  CCGGCGCCCA  TAACAGTGAC

15851  TGCCCCCCAG  GTCCAGGCGA  CGAGCGGCCG  CCGCAGCAGC  CGCGGCCATT
       ACGGGGGGTC  CAGGTCCGCT  GCTCGCCGGC  GGCGTCGTCG  GCGCCGGTAA

15901  AGTGCTATGA  CTCAGGGTCG  CAGGGGCAAC  GTGTATTGGG  TGCGCGACTC
       TCACGATACT  GAGTCCCAGC  GTCCCCGTTG  CACATAACCC  ACGCGCTGAG

15951  GGTTAGCGGC  CTGCGCGTGC  CCGTGCGCAC  CCGCCCCCCG  CGCAACTAGA
       CCAATCGCCG  GACGCGCACG  GGCACGCGTG  GGCGGGGGGC  GCGTTGATCT

16001  TTGCAAGAAA  AAACTACTTA  GACTCGTACT  GTTGTATGTA  TCCAGCGGCG
       AACGTTCTTT  TTTGATGAAT  CTGAGCATGA  CAACATACAT  AGGTCGCCGC

16051  GCGGCGCGCA  ACGAAGCTAT  GTCCAAGCGC  AAAATCAAAG  AAGAGATGCT
       CGCCGCGCGT  TGCTTCGATA  CAGGTTCGCG  TTTTAGTTTC  TTCTCTACGA
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FIG.9A-19

16101 CCAGGTCATC GCGCCGGAGA TCTATGGCCC CCCGAAGAAG GAAGAGCAGG
       GGTCCAGTAG CGCGGCCTCT AGATACCGGG GGGCTTCTTC CTTCTCGTCC

16151 ATTACAAGCC CCGAAAGCTA AAGCGGGTCA AAAAGAAAAA GAAAGATGAT
       TAATGTTCGG GGCTTTCGAT TTCGCCCAGT TTTTCTTTTT CTTTCTACTA

16201 GATGATGAAC TTGACGACGA GGTGGAACTG CTGCACGCTA CCGCGCCCAG
       CTACTACTTG AACTGCTGCT CCACCTTGAC GACGTGCGAT GGCGCGGGTC

16251 GCGACGGGTA CAGTGGAAAG GTCGACGCGT AAAACGTGTT TTGCGACCCG
       CGCTGCCCAT GTCACCTTTC CAGCTGCGCA TTTTGCACAA AACGCTGGGC

16301 GCACCACCGT AGTCTTTACG CCCGGTGAGC GCTCCACCCG CACCTACAAG
       CGTGGTGGCA TCAGAAATGC GGGCCACTCG CGAGGTGGGC GTGGATGTTC

16351 CGCGTGTATG ATGAGGTGTA CGGCGACGAG GACCTGCTTG AGCAGGCCAA
       GCGCACATAC TACTCCACAT GCCGCTGCTC CTGGACGAAC TCGTCCGGTT

16401 CGAGCGCCTC GGGGAGTTTG CCTACGGAAA GCGGCATAAG GACATGCTGG
       GCTCGCGGAG CCCCTCAAAC GGATGCCTTT CGCCGTATTC CTGTACGACC

16451 CGTTGCCGCT GGACGAGGGC AACCCAACAC CTAGCCTAAA GCCCGTAACA
       GCAACGGCGA CCTGCTCCCG TTGGGTTGTG GATCGGATTT CGGGCATTGT

16501 CTGCAGCAGG TGCTGCCCGC GCTTGCACCG TCCGAAGAAA AGCGCGGCCT
       GACGTCGTCC ACGACGGGCG CGAACGTGGC AGGCTTCTTT TCGCGCCGGA

16551 AAAGCGCGAG TCTGGTGACT TGGCACCCAC CGTGCAGCTG ATGGTACCCA
       TTTCGCGCTC AGACCACTGA ACCGTGGGTG GCACGTCGAC TACCATGGGT

16601 AGCGCCAGCG ACTGGAAGAT GTCTTGGAAA AAATGACCGT GGAACCTGGG
       TCGCGGTCGC TGACCTTCTA CAGAACCTTT TTTACTGGCA CCTTGGACCC

16651 CTGGAGCCCG AGGTCCGCGT GCGGCCAATC AAGCAGGTGG CGCCGGGACT
       GACCTCGGGC TCCAGGCGCA CGCCGGTTAG TTCGTCCACC GCGGCCCTGA

16701 GGGCGTGCAG ACCGTGGACG TTCAGATACC CACTACCAGT AGCACCAGTA
       CCCGCACGTC TGGCACCTGC AAGTCTATGG GTGATGGTCA TCGTGGTCAT

16751 TTGCCACCGC CACAGAGGGC ATGGAGACAC AAACGTCCCC GGTTGCCTCA
       AACGGTGGCG GTGTCTCCCG TACCTCTGTG TTTGCAGGGG CCAACGGAGT

16801 GCGGTGGCGG ATGCCGCGGT GCAGGCGGTC GCTGCGGCCG CGTCCAAGAC
       CGCCACCGCC TACGGCGCCA CGTCCGCCAG CGACGCCGGC GCAGGTTCTG

16851 CTCTACGGAG GTGCAAACGG ACCCGTGGAT GTTTCGCGTT TCAGCCCCCC
       GAGATGCCTC CACGTTTGCC TGGGCACCTA CAAAGCGCAA AGTCGGGGGG

16901 GGCGCCCGCG CCGTTCGAGG AAGTACGGCG CCGCCAGCGC GCTACTGCCC
       CCGCGGGCGC GGCAAGCTCC TTCATGCCGC GGCGGTCGCG CGATGACGGG

FIG.9A-20

16951 GAATATGCCC TACATCCTTC CATTGCGCCT ACCCCCGGCT ATCGTGGCTA
      CTTATACGGG ATGTAGGAAG GTAACGCGGA TGGGGGCCGA TAGCACCGAT

17001 CACCTACCGC CCCAGAAGAC GAGCAACTAC CCGACGCCGA ACCACCACTG
      GTGGATGGCG GGGTCTTCTG CTCGTTGATG GGCTGCGGCT TGGTGGTGAC

17051 GAACCCGCCG CCGCCGTCGC CGTCGCCAGC CCGTGCTGGC CCCGATTTCC
      CTTGGGCGGC GGCGGCAGCG GCAGCGGTCG GGCACGACCG GGGCTAAAGG

17101 GTGCGCAGGG TGGCTCGCGA AGGAGGCAGG ACCCTGGTGC TGCCAACAGC
      CACGCGTCCC ACCGAGCGCT TCCTCCGTCC TGGGACCACG ACGGTTGTCG

17151 GCGCTACCAC CCCAGCATCG TTTAAAAGCC GGTCTTTGTG GTTCTTGCAG
      CGCGATGGTG GGGTCGTAGC AAATTTTCGG CCAGAAACAC CAAGAACGTC

17201 ATATGGCCCT CACCTGCCGC CTCCGTTTCC CGGTGCCGGG ATTCCGAGGA
      TATACCGGGA GTGGACGGCG GAGGCAAAGG GCCACGGCCC TAAGGCTCCT

17251 AGAATGCACC GTAGGAGGGG CATGGCCGGC CACGGCCTGA CGGGCGGCAT
      TCTTACGTGG CATCCTCCCC GTACCGGCCG GTGCCGGACT GCCCGCCGTA

17301 GCGTCGTGCG CACCACCGGC GGCGGCGCGC GTCGCACCGT CGCATGCGCG
      CGCAGCACGC GTGGTGGCCG CCGCCGCGCG CAGCGTGGCA GCGTACGCGC

17351 GCGGTATCCT GCCCCTCCTT ATTCCACTGA TCGCCGCGGC GATTGGCGCC
      CGCCATAGGA CGGGGAGGAA TAAGGTGACT AGCGGCGCCG CTAACCGCGG

17401 GTGCCCGGAA TTGCATCCGT GGCCTTGCAG GCGCAGAGAC ACTGATTAAA
      CACGGGCCTT AACGTAGGCA CCGGAACGTC CGCGTCTCTG TGACTAATTT

17451 AACAAGTTGC ATGTGGAAAA ATCAAAATAA AAAGTCTGGA CTCTCACGCT
      TTGTTCAACG TACACCTTTT TAGTTTTATT TTTCAGACCT GAGAGTGCGA

17501 CGCTTGGTCC TGTAACTATT TTGTAGAATG GAAGACATCA ACTTTGCGTC
      GCGAACCAGG ACATTGATAA AACATCTTAC CTTCTGTAGT TGAAACGCAG

17551 TCTGGCCCCG CGACACGGCT CGCGCCCGTT CATGGGAAAC TGGCAAGATA
      AGACCGGGGC GCTGTGCCGA GCGCGGGCAA GTACCCTTTG ACCGTTCTAT

17601 TCGGCACCAG CAATATGAGC GGTGGCGCCT TCAGCTGGGG CTCGCTGTGG
      AGCCGTGGTC GTTATACTCG CCACCGCGGA AGTCGACCCC GAGCGACACC

17651 AGCGGCATTA AAAATTTCGG TTCCACCGTT AAGAACTATG GCAGCAAGGC
      TCGCCGTAAT TTTTAAAGCC AAGGTGGCAA TTCTTGATAC CGTCGTTCCG

17701 CTGGAACAGC AGCACAGGCC AGATGCTGAG GGATAAGTTG AAAGAGCAAA
      GACCTTGTCG TCGTGTCCGG TCTACGACTC CCTATTCAAC TTTCTCGTTT

17751 ATTTCCAACA AAAGGTGGTA GATGGCCTGG CCTCTGGCAT TAGCGGGGTG
      TAAAGGTTGT TTTCCACCAT CTACCGGACC GGAGACCGTA ATCGCCCCAC

FIG.9A-21

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17801  GTGGACCTGG CCAACCAGGC AGTGCAAAAT AAGATTAACA GTAAGCTTGA
       CACCTGGACC GGTTGGTCCG TCACGTTTTA TTCTAATTGT CATTCGAACT

17851  TCCCCGCCCT CCCGTAGAGG AGCCTCCACC GGCCGTGGAG ACAGTGTCTC
       AGGGGCGGGA GGGCATCTCC TCGGAGGTGG CCGGCACCTC TGTCACAGAG

17901  CAGAGGGGCG TGGCGAAAAG CGTCCGCGCC CCGACAGGGA AGAAACTCTG
       GTCTCCCCGC ACCGCTTTTC GCAGGCGCGG GGCTGTCCCT TCTTTGAGAC

17951  GTGACGCAAA TAGACGAGCC TCCCTCGTAC GAGGAGGCAC TAAAGCAAGG
       CACTGCGTTT ATCTGCTCGG AGGGAGCATG CTCCTCCGTG ATTTCGTTCC

18001  CCTGCCCACC ACCCGTCCCA TCGCGCCCAT GGCTACCGGA GTGCTGGGCC
       GGACGGGTGG TGGGCAGGGT AGCGCGGGTA CCGATGGCCT CACGACCCGG

18051  AGCACACACC CGTAACGCTG GACCTGCCTC CCCCCGCCGA CACCCAGCAG
       TCGTGTGTGG GCATTGCGAC CTGGACGGAG GGGGGCGGCT GTGGGTCGTC

18101  AAACCTGTGC TGCCAGGCCC GACCGCCGTT GTTGTAACCC GTCCTAGCCG
       TTTGGACACG ACGGTCCGGG CTGGCGGCAA CAACATTGGG CAGGATCGGC

18151  CGCGTCCCTG CGCCGCGCCG CCAGCGGTCC GCGATCGTTG CGGCCCGTAG
       GCGCAGGGAC GCGGCGCGGC GGTCGCCAGG CGCTAGCAAC GCCGGGCATC

18201  CCAGTGGCAA CTGGCAAAGC ACACTGAACA GCATCGTGGG TCTGGGGGTG
       GGTCACCGTT GACCGTTTCG TGTGACTTGT CGTAGCACCC AGACCCCCAC

18251  CAATCCCTGA AGCGCCGACG ATGCTTCTGA TAGCTAACGT GTCGTATGTG
       GTTAGGGACT TCGCGGCTGC TACGAAGACT ATCGATTGCA CAGCATACAC

18301  TGTCATGTAT GCGTCCATGT CGCCGCCAGA GGAGCTGCTG AGCCGCCGCG
       ACAGTACATA CGCAGGTACA GCGGCGGTCT CCTCGACGAC TCGGCGGCGC

18351  CGCCCGCTTT CCAAGATGGC TACCCCTTCG ATGATGCCGC AGTGGTCTTA
       GCGGGCGAAA GGTTCTACCG ATGGGGAAGC TACTACGGCG TCACCAGAAT

18401  CATGCACATC TCGGGCCAGG ACGCCTCGGA GTACCTGAGC CCCGGGCTGG
       GTACGTGTAG AGCCCGGTCC TGCGGAGCCT CATGGACTCG GGGCCCGACC

18451  TGCAGTTTGC CCGCGCCACC GAGACGTACT TCAGCCTGAA TAACAAGTTT
       ACGTCAAACG GGCGCGGTGG CTCTGCATGA AGTCGGACTT ATTGTTCAAA

18501  AGAAACCCCA CGGTGGCGCC TACGCACGAC GTGACCACAG ACCGGTCCCA
       TCTTTGGGGT GCCACCGCGG ATGCGTGCTG CACTGGTGTC TGGCCAGGGT

18551  GCGTTTGACG CTGCGGTTCA TCCCTGTGGA CCGTGAGGAT ACTGCGTACT
       CGCAAACTGC GACGCCAAGT AGGGACACCT GGCACTCCTA TGACGCATGA

18601  CGTACAAGGC GCGGTTCACC CTAGCTGTGG GTGATAACCG TGTGCTGGAC
       GCATGTTCCG CGCCAAGTGG GATCGACACC CACTATTGGC ACACGACCTG
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FIG.9A-22

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18651  ATGGCTTCCA CGTACTTTGA CATCCGCGGC GTGCTGGACA GGGGCCCTAC
       TACCGAAGGT GCATGAAACT GTAGGCGCCG CACGACCTGT CCCCGGGATG

18701  TTTTAAGCCC TACTCTGGCA CTGCCTACAA CGCCCTGGCT CCCAAGGGTG
       AAAATTCGGG ATGAGACCGT GACGGATGTT GCGGGACCGA GGGTTCCCAC

18751  CCCCAAATCC TTGCGAATGG GATGAAGCTG CTACTGCTCT TGAAATAAAC
       GGGGTTTAGG AACGCTTACC CTACTTCGAC GATGACGAGA ACTTTATTTG

18801  CTAGAAGAAG AGGACGATGA CAACGAAGAC GAAGTAGACG AGCAAGCTGA
       GATCTTCTTC TCCTGCTACT GTTGCTTCTG CTTCATCTGC TCGTTCGACT

18851  GCAGCAAAAA ACTCACGTAT TTGGGCAGGC GCCTTATTCT GGTATAAATA
       CGTCGTTTTT TGAGTGCATA AACCCGTCCG CGGAATAAGA CCATATTTAT

18901  TTACAAAGGA GGGTATTCAA ATAGGTGTCG AAGGTCAAAC ACCTAAATAT
       AATGTTTCCT CCCATAAGTT TATCCACAGC TTCCAGTTTG TGGATTTATA

18951  GCCGATAAAA CATTTCAACC TGAACCTCAA ATAGGAGAAT CTCAGTGGTA
       CGGCTATTTT GTAAAGTTGG ACTTGGAGTT TATCCTCTTA GAGTCACCAT

19001  CGAAACAGAA ATTAATCATG CAGCTGGGAG AGTCCTAAAA AAGACTACCC
       GCTTTGTCTT TAATTAGTAC GTCGACCCTC TCAGGATTTT TTCTGATGGG

19051  CAATGAAACC ATGTTACGGT TCATATGCAA AACCCACAAA TGAAAATGGA
       GTTACTTTGG TACAATGCCA AGTATACGTT TTGGGTGTTT ACTTTTACCT

19101  GGGCAAGGCA TTCTTGTAAA GCAACAAAAT GGAAAGCTAG AAAGTCAAGT
       CCCGTTCCGT AAGAACATTT CGTTGTTTTA CCTTTCGATC TTTCAGTTCA

19151  GGAAATGCAA TTTTTCTCAA CTACTGAGGC AGCCGCAGGC AATGGTGATA
       CCTTTACGTT AAAAAGAGTT GATGACTCCG TCGGCGTCCG TTACCACTAT

19201  ACTTGACTCC TAAAGTGGTA TTGTACAGTG AAGATGTAGA TATAGAAACC
       TGAACTGAGG ATTTCACCAT AACATGTCAC TTCTACATCT ATATCTTTGG

19251  CCAGACACTC ATATTTCTTA CATGCCCACT ATTAAGGAAG GTAACTCACG
       GGTCTGTGAG TATAAAGAAT GTACGGGTGA TAATTCCTTC CATTGAGTGC

19301  AGAACTAATG GGCCAACAAT CTATGCCCAA CAGGCCTAAT TACATTGCTT
       TCTTGATTAC CCGGTTGTTA GATACGGGTT GTCCGGATTA ATGTAACGAA

19351  TTAGGGACAA TTTTATTGGT CTAATGTATT ACAACAGCAC GGGTAATATG
       AATCCCTGTT AAAATAACCA GATTACATAA TGTTGTCGTG CCCATTATAC

19401  GGTGTTCTGG CGGGCCAAGC ATCGCAGTTG AATGCTGTTG TAGATTTGCA
       CCACAAGACC GCCCGGTTCG TAGCGTCAAC TTACGACAAC ATCTAAACGT

19451  AGACAGAAAC ACAGAGCTTT CATACCAGCT TTTGCTTGAT TCCATTGGTG
       TCTGTCTTTG TGTCTCGAAA GTATGGTCGA AAACGAACTA AGGTAACCAC
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FIG.9A-23

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19501   ATAGAACCAG GTACTTTTCT ATGTGGAATC AGGCTGTTGA CAGCTATGAT
        TATCTTGGTC CATGAAAAGA TACACCTTAG TCCGACAACT GTCGATACTA

19551   CCAGATGTTA GAATTATTGA AAATCATGGA ACTGAAGATG AACTTCCAAA
        GGTCTACAAT CTTAATAACT TTTAGTACCT TGACTTCTAC TTGAAGGTTT

19601   TTACTGCTTT CCACTGGGAG GTGTGATTAA TACAGAGACT CTTACCAAGG
        AATGACGAAA GGTGACCCTC CACACTAATT ATGTCTCTGA GAATGGTTCC

19651   TAAAACCTAA AACAGGTCAG GAAAATGGAT GGGAAAAAGA TGCTACAGAA
        ATTTTGGATT TTGTCCAGTC CTTTTACCTA CCCTTTTTCT ACGATGTCTT

19701   TTTTCAGATA AAAATGAAAT AAGAGTTGGA AATAATTTTG CCATGGAAAT
        AAAAGTCTAT TTTTACTTTA TTCTCAACCT TTATTAAAAC GGTACCTTTA

19751   CAATCTAAAT GCCAACCTGT GGAGAAATTT CCTGTACTCC AACATAGCGC
        GTTAGATTTA CGGTTGGACA CCTCTTTAAA GGACATGAGG TTGTATCGCG

19801   TGTATTTGCC CGACAAGCTA AAGTACAGTC CTTCCAACGT AAAAATTTCT
        ACATAAACGG GCTGTTCGAT TTCATGTCAG GAAGGTTGCA TTTTTAAAGA

19851   GATAACCCAA ACACCTACGA CTACATGAAC AAGCGAGTGG TGGCTCCCGG
        CTATTGGGTT TGTGGATGCT GATGTACTTG TTCGCTCACC ACCGAGGGCC

19901   GCTAGTGGAC TGCTACATTA ACCTTGGAGC ACGCTGGTCC CTTGACTATA
        CGATCACCTG ACGATGTAAT TGGAACCTCG TGCGACCAGG GAACTGATAT

19951   TGGACAACGT CAACCCATTT AACCACCACC GCAATGCTGG CCTGCGCTAC
        ACCTGTTGCA GTTGGGTAAA TTGGTGGTGG CGTTACGACC GGACGCGATG

20001   CGCTCAATGT TGCTGGGCAA TGGTCGCTAT GTGCCCTTCC ACATCCAGGT
        GCGAGTTACA ACGACCCGTT ACCAGCGATA CACGGGAAGG TGTAGGTCCA

20051   GCCTCAGAAG TTCTTTGCCA TTAAAAACCT CCTTCTCCTG CCGGGCTCAT
        CGGAGTCTTC AAGAAACGGT AATTTTTGGA GGAAGAGGAC GGCCCGAGTA

20101   ACACCTACGA GTGGAACTTC AGGAAGGATG TTAACATGGT TCTGCAGAGC
        TGTGGATGCT CACCTTGAAG TCCTTCCTAC AATTGTACCA AGACGTCTCG

20151   TCCCTAGGAA ATGACCTAAG GGTTGACGGA GCCAGCATTA AGTTTGATAG
        AGGGATCCTT TACTGGATTC CCAACTGCCT CGGTCGTAAT TCAAACTATC

20201   CATTTGCCTT TACGCCACCT TCTTCCCCAT GGCCCACAAC ACCGCCTCCA
        GTAAACGGAA ATGCGGTGGA AGAAGGGGTA CCGGGTGTTG TGGCGGAGGT

20251   CGCTTGAGGC CATGCTTAGA AACGACACCA ACGACCAGTC CTTTAACGAC
        GCGAACTCCG GTACGAATCT TTGCTGTGGT TGCTGGTCAG GAAATTGCTG

20301   TATCTCTCCG CCGCCAACAT GCTCTACCCT ATACCCGCCA ACGCTACCAA
        ATAGAGAGGC GGCGGTTGTA CGAGATGGGA TATGGGCGGT TGCGATGGTT
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FIG.9A-24

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20351   CGTGCCCATA TCCATCCCCT CCCGCAACTG GGCGGCTTTC CGCGGCTGGG
            GCACGGGTAT AGGTAGGGGA GGGCGTTGAC CCGCCGAAAG GCGCCGACCC

20401   CCTTCACGCG CCTTAAGACT AAGGAAACCC CATCACTGGG CTCGGGCTAC
            GGAAGTGCGC GGAATTCTGA TTCCTTTGGG GTAGTGACCC GAGCCCGATG

20451   GACCCTTATT ACACCTACTC TGGCTCTATA CCCTACCTAG ATGGAACCTT
            CTGGGAATAA TGTGGATGAG ACCGAGATAT GGGATGGATC TACCTTGGAA

20501   TTACCTCAAC CACACCTTTA AGAAGGTGGC CATTACCTTT GACTCTTCTG
            AATGGAGTTG GTGTGGAAAT TCTTCCACCG GTAATGGAAA CTGAGAAGAC

20551   TCAGCTGGCC TGGCAATGAC CGCCTGCTTA CCCCCAACGA GTTTGAAATT
            AGTCGACCGG ACCGTTACTG GCGGACGAAT GGGGGTTGCT CAAACTTTAA

20601   AAGCGCTCAG TTGACGGGGA GGGTTACAAC GTTGCCCAGT GTAACATGAC
            TTCGCGAGTC AACTGCCCCT CCCAATGTTG CAACGGGTCA CATTGTACTG

20651   CAAAGACTGG TTCCTGGTAC AAATGCTAGC TAACTATAAC ATTGGCTACC
            GTTTCTGACC AAGGACCATG TTTACGATCG ATTGATATTG TAACCGATGG

20701   AGGGCTTCTA TATCCCAGAG AGCTACAAGG ACCGCATGTA CTCCTTCTTT
            TCCCGAAGAT ATAGGGTCTC TCGATGTTCC TGGCGTACAT GAGGAAGAAA

20751   AGAAACTTCC AGCCCATGAG CCGTCAGGTG GTGGATGATA CTAAATACAA
            TCTTTGAAGG TCGGGTACTC GGCAGTCCAC CACCTACTAT GATTTATGTT

20801   GGACTACCAA CAGGTGGGCA TCCTACACCA ACACAACAAC TCTGGATTTG
            CCTGATGGTT GTCCACCCGT AGGATGTGGT TGTGTTGTTG AGACCTAAAC

20851   TTGGCTACCT TGCCCCCACC ATGCGCGAAG GACAGGCCTA CCCTGCTAAC
            AACCGATGGA ACGGGGGTGG TACGCGCTTC CTGTCCGGAT GGGACGATTG

20901   TTCCCCTATC CGCTTATAGG CAAGACCGCA GTTGACAGCA TTACCCAGAA
            AAGGGGATAG GCGAATATCC GTTCTGGCGT CAACTGTCGT AATGGGTCTT

20951   AAAGTTTCTT TGCGATCGCA CCCTTTGGCG CATCCCATTC TCCAGTAACT
            TTTCAAAGAA ACGCTAGCGT GGGAAACCGC GTAGGGTAAG AGGTCATTGA

21001   TTATGTCCAT GGGCGCACTC ACAGACCTGG GCCAAAACCT TCTCTACGCC
            AATACAGGTA CCCGCGTGAG TGTCTGGACC CGGTTTTGGA AGAGATGCGG

21051   AACTCCGCCC ACGCGCTAGA CATGACTTTT GAGGTGGATC CCATGGACGA
            TTGAGGCGGG TGCGCGATCT GTACTGAAAA CTCCACCTAG GGTACCTGCT

21101   GCCCACCCTT CTTTATGTTT TGTTTGAAGT CTTTGACGTG GTCCGTGTGC
            CGGGTGGGAA GAAATACAAA ACAAACTTCA GAAACTGCAC CAGGCACACG

21151   ACCAGCCGCA CCGCGGCGTC ATCGAAACCG TGTACCTGCG CACGCCCTTC
            TGGTCGGCGT GGCGCCGCAG TAGCTTTGGC ACATGGACGC GTGCGGGAAG

FIG.9A-25

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21201  TCGGCCGGCA ACGCCACAAC ATAAAGAAGC AAGCAACATC AACAACAGCT
       AGCCGGCCGT TGCGGTGTTG TATTTCTTCG TTCGTTGTAG TTGTTGTCGA

21251  GCCGCCATGG GCTCCAGTGA GCAGGAACTG AAAGCCATTG TCAAAGATCT
       CGGCGGTACC CGAGGTCACT CGTCCTTGAC TTTCGGTAAC AGTTTCTAGA

21301  TGGTTGTGGG CCATATTTTT TGGGCACCTA TGACAAGCGC TTTCCAGGCT
       ACCAACACCC GGTATAAAAA ACCCGTGGAT ACTGTTCGCG AAAGGTCCGA

21351  TTGTTTCTCC ACACAAGCTC GCCTGCGCCA TAGTCAATAC GGCCGGTCGC
       AACAAAGAGG TGTGTTCGAG CGGACGCGGT ATCAGTTATG CCGGCCAGCG

21401  GAGACTGGGG GCGTACACTG GATGGCCTTT GCCTGGAACC CGCACTCAAA
       CTCTGACCCC CGCATGTGAC CTACCGGAAA CGGACCTTGG GCGTGAGTTT

21451  AACATGCTAC CTCTTTGAGC CCTTTGGCTT TTCTGACCAG CGACTCAAGC
       TTGTACGATG GAGAAACTCG GGAAACCGAA AAGACTGGTC GCTGAGTTCG

21501  AGGTTTACCA GTTTGAGTAC GAGTCACTCC TGCGCCGTAG CGCCATTGCT
       TCCAAATGGT CAAACTCATG CTCAGTGAGG ACGCGGCATC GCGGTAACGA

21551  TCTTCCCCCG ACCGCTGTAT AACGCTGGAA AAGTCCACCC AAAGCGTACA
       AGAAGGGGGC TGGCGACATA TTGCGACCTT TTCAGGTGGG TTTCGCATGT

21601  GGGGCCCAAC TCGGCCGCCT GTGGACTATT CTGCTGCATG TTTCTCCACG
       CCCCGGGTTG AGCCGGCGGA CACCTGATAA GACGACGTAC AAAGAGGTGC

21651  CCTTTGCCAA CTGGCCCCAA ACTCCCATGG ATCACAACCC CACCATGAAC
       GGAAACGGTT GACCGGGGTT TGAGGGTACC TAGTGTTGGG GTGGTACTTG

21701  CTTATTACCG GGGTACCCAA CTCCATGCTC AACAGTCCCC AGGTACAGCC
       GAATAATGGC CCCATGGGTT GAGGTACGAG TTGTCAGGGG TCCATGTCGG

21751  CACCCTGCGT CGCAACCAGG AACAGCTCTA CAGCTTCCTG GAGCGCCACT
       GTGGGACGCA GCGTTGGTCC TTGTCGAGAT GTCGAAGGAC CTCGCGGTGA

21801  CGCCCTACTT CCGCAGCCAC AGTGCGCAGA TTAGGAGCGC CACTTCTTTT
       GCGGGATGAA GGCGTCGGTG TCACGCGTCT AATCCTCGCG GTGAAGAAAA

21851  TGTCACTTGA AAAACATGTA AAAATAATGT ACTAGAGACA CTTTCAATAA
       ACAGTGAACT TTTTGTACAT TTTTATTACA TGATCTCTGT GAAAGTTATT

21901  AGGCAAATGC TTTTATTTGT ACACTCTCGG GTGATTATTT ACCCCCACCC
       TCCGTTTACG AAAATAAACA TGTGAGAGCC CACTAATAAA TGGGGGTGGG

21951  TTGCCGTCTG CGCCGTTTAA AAATCAAAGG GGTTCTGCCG CGCATCGCTA
       AACGGCAGAC GCGGCAAATT TTTAGTTTCC CCAAGACGGC GCGTAGCGAT

22001  TGCGCCACTG GCAGGGACAC GTTGCGATAC TGGTGTTTAG TGCTCCACTT
       ACGCGGTGAC CGTCCCTGTG CAACGCTATG ACCACAAATC ACGAGGTGAA
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FIG.9A-26

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22051  AAACTCAGGC ACAACCATCC GCGGCAGCTC GGTGAAGTTT TCACTCCACA
       TTTGAGTCCG TGTTGGTAGG CGCCGTCGAG CCACTTCAAA AGTGAGGTGT

22101  GGCTGCGCAC CATCACCAAC GCGTTTAGCA GGTCGGGCGC CGATATCTTG
       CCGACGCGTG GTAGTGGTTG CGCAAATCGT CCAGCCCGCG GCTATAGAAC

22151  AAGTCGCAGT TGGGGCCTCC GCCCTGCGCG CGCGAGTTGC GATACACAGG
       TTCAGCGTCA ACCCCGGAGG CGGGACGCGC GCGCTCAACG CTATGTGTCC

22201  GTTGCAGCAC TGGAACACTA TCAGCGCCGG GTGGTGCACG CTGGCCAGCA
       CAACGTCGTG ACCTTGTGAT AGTCGCGGCC CACCACGTGC GACCGGTCGT

22251  CGCTCTTGTC GGAGATCAGA TCCGCGTCCA GGTCCTCCGC GTTGCTCAGG
       GCGAGAACAG CCTCTAGTCT AGGCGCAGGT CCAGGAGGCG CAACGAGTCC

22301  GCGAACGGAG TCAACTTTGG TAGCTGCCTT CCCAAAAAGG GCGCGTGCCC
       CGCTTGCCTC AGTTGAAACC ATCGACGGAA GGGTTTTTCC CGCGCACGGG

22351  AGGCTTTGAG TTGCACTCGC ACCGTAGTGG CATCAAAAGG TGACCGTGCC
       TCCGAAACTC AACGTGAGCG TGGCATCACC GTAGTTTTCC ACTGGCACGG

22401  CGGTCTGGGC GTTAGGATAC AGCGCCTGCA TAAAAGCCTT GATCTGCTTA
       GCCAGACCCG CAATCCTATG TCGCGGACGT ATTTTCGGAA CTAGACGAAT

22451  AAAGCCACCT GAGCCTTTGC GCCTTCAGAG AAGAACATGC CGCAAGACTT
       TTTCGGTGGA CTCGGAAACG CGGAAGTCTC TTCTTGTACG GCGTTCTGAA

22501  GCCGGAAAAC TGATTGGCCG GACAGGCCGC GTCGTGCACG CAGCACCTTG
       CGGCCTTTTG ACTAACCGGC CTGTCCGGCG CAGCACGTGC GTCGTGGAAC

22551  CGTCGGTGTT GGAGATCTGC ACCACATTTC GGCCCCACCG GTTCTTCACG
       GCAGCCACAA CCTCTAGACG TGGTGTAAAG CCGGGGTGGC CAAGAAGTGC

22601  ATCTTGGCCT TGCTAGACTG CTCCTTCAGC GCGCGCTGCC CGTTTTCGCT
       TAGAACCGGA ACGATCTGAC GAGGAAGTCG CGCGCGACGG GCAAAAGCGA

22651  CGTCACATCC ATTTCAATCA CGTGCTCCTT ATTTATCATA ATGCTTCCGT
       GCAGTGTAGG TAAAGTTAGT GCACGAGGAA TAAATAGTAT TACGAAGGCA

22701  GTAGACACTT AAGCTCGCCT TCGATCTCAG CGCAGCGGTG CAGCCACAAC
       CATCTGTGAA TTCGAGCGGA AGCTAGAGTC GCGTCGCCAC GTCGGTGTTG

22751  GCGCAGCCCG TGGGCTCGTG ATGCTTGTAG GTCACCTCTG CAAACGACTG
       CGCGTCGGGC ACCCGAGCAC TACGAACATC CAGTGGAGAC GTTTGCTGAC

22801  CAGGTACGCC TGCAGGAATC GCCCCATCAT CGTCACAAAG GTCTTGTTGC
       GTCCATGCGG ACGTCCTTAG CGGGGTAGTA GCAGTGTTTC CAGAACAACG

22851  TGGTGAAGGT CAGCTGCAAC CCGCGGTGCT CCTCGTTCAG CCAGGTCTTG
       ACCACTTCCA GTCGACGTTG GGCGCCACGA GGAGCAAGTC GGTCCAGAAC
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FIG.9A-27

22901 CATACGGCCG CCAGAGCTTC CACTTGGTCA GGCAGTAGTT TGAAGTTCGC
       GTATGCCGGC GGTCTCGAAG GTGAACCAGT CCGTCATCAA ACTTCAAGCG

22951 CTTTAGATCG TTATCCACGT GGTACTTGTC CATCAGCGCG CGCGCAGCCT
       GAAATCTAGC AATAGGTGCA CCATGAACAG GTAGTCGCGC GCGCGTCGGA

23001 CCATGCCCTT CTCCCACGCA GACACGATCG GCACACTCAG CGGGTTCATC
       GGTACGGGAA GAGGGTGCGT CTGTGCTAGC CGTGTGAGTC GCCCAAGTAG

23051 ACCGTAATTT CACTTTCCGC TTCGCTGGGC TCTTCCTCTT CCTCTTGCGT
       TGGCATTAAA GTGAAAGGCG AAGCGACCCG AGAAGGAGAA GGAGAACGCA

23101 CCGCATACCA CGCGCCACTG GGTCGTCTTC ATTCAGCCGC CGCACTGTGC
       GGCGTATGGT GCGCGGTGAC CCAGCAGAAG TAAGTCGGCG GCGTGACACG

23151 GCTTACCTCC TTTGCCATGC TTGATTAGCA CCGGTGGGTT GCTGAAACCC
       CGAATGGAGG AAACGGTACG AACTAATCGT GGCCACCCAA CGACTTTGGG

23201 ACCATTTGTA GCGCCACATC TTCTCTTTCT TCCTCGCTGT CCACGATTAC
       TGGTAAACAT CGCGGTGTAG AAGAGAAAGA AGGAGCGACA GGTGCTAATG

23251 CTCTGGTGAT GGCGGGCGCT CGGGCTTGGG AGAAGGGCGC TTCTTTTTCT
       GAGACCACTA CCGCCCGCGA GCCCGAACCC TCTTCCCGCG AAGAAAAAGA

23301 TCTTGGGCGC AATGGCCAAA TCCGCCGCCG AGGTCGATGG CCGCGGGCTG
       AGAACCCGCG TTACCGGTTT AGGCGGCGGC TCCAGCTACC GGCGCCCGAC

23351 GGTGTGCGCG GCACCAGCGC GTCTTGTGAT GAGTCTTCCT CGTCCTCGGA
       CCACACGCGC CGTGGTCGCG CAGAACACTA CTCAGAAGGA GCAGGAGCCT

23401 CTCGATACGC CGCCTCATCC GCTTTTTTGG GGGCGCCCGG GGAGGCGGCG
       GAGCTATGCG GCGGAGTAGG CGAAAAAACC CCCGCGGGCC CCTCCGCCGC

23451 GCGACGGGGA CGGGGACGAC ACGTCCTCCA TGGTTGGGGG ACGTCGCGCC
       CGCTGCCCCT GCCCCTGCTG TGCAGGAGGT ACCAACCCCC TGCAGCGCGG

23501 GCACCGCGTC CGCGCTCGGG GGTGGTTTCG CGCTGCTCCT CTTCCCGACT
       CGTGGCGCAG GCGCGAGCCC CCACCAAAGC GCGACGAGGA GAAGGGCTGA

23551 GGCCATTTCC TTCTCCTATA GGCAGAAAAA GATCATGGAG TCAGTCGAGA
       CCGGTAAAGG AAGAGGATAT CCGTCTTTTT CTAGTACCTC AGTCAGCTCT

23601 AGAAGGACAG CCTAACCGCC CCCTCTGAGT TCGCCACCAC CGCCTCCACC
       TCTTCCTGTC GGATTGGCGG GGGAGACTCA AGCGGTGGTG GCGGAGGTGG

23651 GATGCCGCCA ACGCGCCTAC CACCTTCCCC GTCGAGGCAC CCCCGCTTGA
       CTACGGCGGT TGCGCGGATG GTGGAAGGGG CAGCTCCGTG GGGGCGAACT

23701 GGAGGAGGAA GTGATTATCG AGCAGGACCC AGGTTTTGTA AGCGAAGACG
       CCTCCTCCTT CACTAATAGC TCGTCCTGGG TCCAAAACAT TCGCTTCTGC

FIG.9A-28

23751   ACGAGGACCG CTCAGTACCA ACAGAGGATA AAAAGCAAGA CCAGGACAAC
        TGCTCCTGGC GAGTCATGGT TGTCTCCTAT TTTTCGTTCT GGTCCTGTTG

23801   GCAGAGGCAA ACGAGGAACA AGTCGGGCGG GGGGACGAAA GGCATGGCGA
        CGTCTCCGTT TGCTCCTTGT TCAGCCCGCC CCCCTGCTTT CCGTACCGCT

23851   CTACCTAGAT GTGGGAGACG ACGTGCTGTT GAAGCATCTG CAGCGCCAGT
        GATGGATCTA CACCCTCTGC TGCACGACAA CTTCGTAGAC GTCGCGGTCA

23901   GCGCCATTAT CTGCGACGCG TTGCAAGAGC GCAGCGATGT GCCCCTCGCC
        CGCGGTAATA GACGCTGCGC AACGTTCTCG CGTCGCTACA CGGGGAGCGG

23951   ATAGCGGATG TCAGCCTTGC CTACGAACGC CACCTATTCT CACCGCGCGT
        TATCGCCTAC AGTCGGAACG GATGCTTGCG GTGGATAAGA GTGGCGCGCA

24001   ACCCCCCAAA CGCCAAGAAA ACGGCACATG CGAGCCCAAC CCGCGCCTCA
        TGGGGGGTTT GCGGTTCTTT TGCCGTGTAC GCTCGGGTTG GGCGCGGAGT

24051   ACTTCTACCC CGTATTTGCC GTGCCAGAGG TGCTTGCCAC CTATCACATC
        TGAAGATGGG GCATAAACGG CACGGTCTCC ACGAACGGTG GATAGTGTAG

24101   TTTTTCCAAA ACTGCAAGAT ACCCCTATCC TGCCGTGCCA ACCGCAGCCG
        AAAAAGGTTT TGACGTTCTA TGGGGATAGG ACGGCACGGT TGGCGTCGGC

24151   AGCGGACAAG CAGCTGGCCT TGCGGCAGGG CGCTGTCATA CCTGATATCG
        TCGCCTGTTC GTCGACCGGA ACGCCGTCCC GCGACAGTAT GGACTATAGC

24201   CCTCGCTCAA CGAAGTGCCA AAAATCTTTG AGGGTCTTGG ACGCGACGAG
        GGAGCGAGTT GCTTCACGGT TTTTAGAAAC TCCCAGAACC TGCGCTGCTC

24251   AAGCGCGCGG CAAACGCTCT GCAACAGGAA AACAGCGAAA ATGAAAGTCA
        TTCGCGCGCC GTTTGCGAGA CGTTGTCCTT TTGTCGCTTT TACTTTCAGT

24301   CTCTGGAGTG TTGGTGGAAC TCGAGGGTGA CAACGCGCGC CTAGCCGTAC
        GAGACCTCAC AACCACCTTG AGCTCCCACT GTTGCGCGCG GATCGGCATG

24351   TAAAACGCAG CATCGAGGTC ACCCACTTTG CCTACCCGGC ACTTAACCTA
        ATTTTGCGTC GTAGCTCCAG TGGGTGAAAC GGATGGGCCG TGAATTGGAT

24401   CCCCCCAAGG TCATGAGCAC AGTCATGAGT GAGCTGATCG TGCGCCGTGC
        GGGGGGTTCC AGTACTCGTG TCAGTACTCA CTCGACTAGC ACGCGGCACG

24451   GCAGCCCCTG GAGAGGGATG CAAATTTGCA AGAACAAACA GAGGAGGGCC
        CGTCGGGGAC CTCTCCCTAC GTTTAAACGT TCTTGTTTGT CTCCTCCCGG

24501   TACCCGCAGT TGGCGACGAG CAGCTAGCGC GCTGGCTTCA AACGCGCGAG
        ATGGGCGTCA ACCGCTGCTC GTCGATCGCG CGACCGAAGT TTGCGCGCTC

24551   CCTGCCGACT TGGAGGAGCG ACGCAAACTA ATGATGGCCG CAGTGCTCGT
        GGACGGCTGA ACCTCCTCGC TGCGTTTGAT TACTACCGGC GTCACGAGCA

FIG.9A-29

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24601   TACCGTGGAG CTTGAGTGCA TGCAGCGGTT CTTTGCTGAC CCGGAGATGC
        ATGGCACCTC GAACTCACGT ACGTCGCCAA GAAACGACTG GGCCTCTACG

24651   AGCGCAAGCT AGAGGAAACA TTGCACTACA CCTTTCGACA GGGCTACGTA
        TCGCGTTCGA TCTCCTTTGT AACGTGATGT GGAAAGCTGT CCCGATGCAT

24701   CGCCAGGCCT GCAAGATCTC CAACGTGGAG CTCTGCAACC TGGTCTCCTA
        GCGGTCCGGA CGTTCTAGAG GTTGCACCTC GAGACGTTGG ACCAGAGGAT

24751   CCTTGGAATT TTGCACGAAA ACCGCCTTGG GCAAAACGTG CTTCATTCCA
        GGAACCTTAA AACGTGCTTT TGGCGGAACC CGTTTTGCAC GAAGTAAGGT

24801   CGCTCAAGGG CGAGGCGCGC CGCGACTACG TCCGCGACTG CGTTTACTTA
        GCGAGTTCCC GCTCCGCGCG GCGCTGATGC AGGCGCTGAC GCAAATGAAT

24851   TTTCTATGCT ACACCTGGCA GACGGCCATG GGCGTTTGGC AGCAGTGCTT
        AAAGATACGA TGTGGACCGT CTGCCGGTAC CCGCAAACCG TCGTCACGAA

24901   GGAGGAGTGC AACCTCAAGG AGCTGCAGAA ACTGCTAAAG CAAAACTTGA
        CCTCCTCACG TTGGAGTTCC TCGACGTCTT TGACGATTTC GTTTTGAACT

24951   AGGACCTATG GACGGCCTTC AACGAGCGCT CCGTGGCCGC GCACCTGGCG
        TCCTGGATAC CTGCCGGAAG TTGCTCGCGA GGCACCGGCG CGTGGACCGC

25001   GACATCATTT TCCCCGAACG CCTGCTTAAA ACCCTGCAAC AGGGTCTGCC
        CTGTAGTAAA AGGGGCTTGC GGACGAATTT TGGGACGTTG TCCCAGACGG

25051   AGACTTCACC AGTCAAAGCA TGTTGCAGAA CTTTAGGAAC TTTATCCTAG
        TCTGAAGTGG TCAGTTTCGT ACAACGTCTT GAAATCCTTG AAATAGGATC

25101   AGCGCTCAGG AATCTTGCCC GCCACCTGCT· GTGCACTTCC TAGCGACTTT
        TCGCGAGTCC TTAGAACGGG CGGTGGACGA CACGTGAAGG ATCGCTGAAA

25151   GTGCCCATTA AGTACCGCGA ATGCCCTCCG CCGCTTTGGG GCCACTGCTA
        CACGGGTAAT TCATGGCGCT TACGGGAGGC GGCGAAACCC CGGTGACGAT

25201   CCTTCTGCAG CTAGCCAACT ACCTTGCCTA CCACTCTGAC ATAATGGAAG
        GGAAGACGTC GATCGGTTGA TGGAACGGAT GGTGAGACTG TATTACCTTC

25251   ACGTGAGCGG TGACGGTCTA CTGGAGTGTC ACTGTCGCTG CAACCTATGC
        TGCACTCGCC ACTGCCAGAT GACCTCACAG TGACAGCGAC GTTGGATACG

25301   ACCCCGCACC GCTCCCTGGT TTGCAATTCG CAGCTGCTTA ACGAAAGTCA
        TGGGGCGTGG CGAGGGACCA AACGTTAAGC GTCGACGAAT TGCTTTCAGT

25351   AATTATCGGT ACCTTTGAGC TGCAGGGTCC CTCGCCTGAC GAAAAGTCCG
        TTAATAGCCA TGGAAACTCG ACGTCCCAGG GAGCGGACTG CTTTTCAGGC

25401   CGGCTCCGGG GTTGAAACTC ACTCCGGGGC TGTGGACGTC GGCTTACCTT
        GCCGAGGCCC CAACTTTGAG TGAGGCCCCG ACACCTGCAG CCGAATGGAA

FIG.9A-30

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25451  CGCAAATTTG TACCTGAGGA CTACCACGCC CACGAGATTA GGTTCTACGA
       GCGTTTAAAC ATGGACTCCT GATGGTGCGG GTGCTCTAAT CCAAGATGCT

25501  AGACCAATCC CGCCCGCCTA ATGCGGAGCT TACCGCCTGC GTCATTACCC
       TCTGGTTAGG GCGGGCGGAT TACGCCTCGA ATGGCGGACG CAGTAATGGG

25551  AGGGCCACAT TCTTGGCCAA TTGCAAGCCA TCAACAAAGC CCGCCAAGAG
       TCCCGGTGTA AGAACCGGTT AACGTTCGGT AGTTGTTTCG GGCGGTTCTC

25601  TTTCTGCTAC GAAAGGGACG GGGGGTTTAC TTGGACCCCC AGTCCGGCGA
       AAAGACGATG CTTTCCCTGC CCCCCAAATG AACCTGGGGG TCAGGCCGCT

25651  GGAGCTCAAC CCAATCCCCC CGCCGCCGCA GCCCTATCAG CAGCAGCCGC
       CCTCGAGTTG GGTTAGGGGG GCGGCGGCGT CGGGATAGTC GTCGTCGGCG

25701  GGGCCCTTGC TTCCCAGGAT GGCACCCAAA AAGAAGCTGC AGCTGCCGCC
       CCCGGGAACG AAGGGTCCTA CCGTGGGTTT TTCTTCGACG TCGACGGCGG

25751  GCCACCCACG GACGAGGAGG AATACTGGGA CAGTCAGGCA GAGGAGGTTT
       CGGTGGGTGC CTGCTCCTCC TTATGACCCT GTCAGTCCGT CTCCTCCAAA

25801  TGGACGAGGA GGAGGAGGAC ATGATGGAAG ACTGGGAGAG CCTAGACGAG
       ACCTGCTCCT CCTCCTCCTG TACTACCTTC TGACCCTCTC GGATCTGCTC

25851  GAAGCTTCCG AGGTCGAAGA GGTGTCAGAC GAAACACCGT CACCCTCGGT
       CTTCGAAGGC TCCAGCTTCT CCACAGTCTG CTTTGTGGCA GTGGGAGCCA

25901  CGCATTCCCC TCGCCGGCGC CCCAGAAATC GGCAACCGGT TCCAGCATGG
       GCGTAAGGGG AGCGGCCGCG GGGTCTTTAG CCGTTGGCCA AGGTCGTACC

25951  CTACAACCTC CGCTCCTCAG GCGCCGCCGG CACTGCCCGT TCGCCGACCC
       GATGTTGGAG GCGAGGAGTC CGCGGCGGCC GTGACGGGCA AGCGGCTGGG

26001  AACCGTAGAT GGGACACCAC TGGAACCAGG GCCGGTAAGT CCAAGCAGCC
       TTGGCATCTA CCCTGTGGTG ACCTTGGTCC CGGCCATTCA GGTTCGTCGG

26051  GCCGCCGTTA GCCCAAGAGC AACAACAGCG CCAAGGCTAC CGCTCATGGC
       CGGCGGCAAT CGGGTTCTCG TTGTTGTCGC GGTTCCGATG GCGAGTACCG

26101  GCGGGCACAA GAACGCCATA GTTGCTTGCT TGCAAGACTG TGGGGGCAAC
       CGCCCGTGTT CTTGCGGTAT CAACGAACGA ACGTTCTGAC ACCCCCGTTG

26151  ATCTCCTTCG CCCGCCGCTT TCTTCTCTAC CATCACGGCG TGGCCTTCCC
       TAGAGGAAGC GGGCGGCGAA AGAAGAGATG GTAGTGCCGC ACCGGAAGGG

26201  CCGTAACATC CTGCATTACT ACCGTCATCT CTACAGCCCA TACTGCACCG
       GGCATTGTAG GACGTAATGA TGGCAGTAGA GATGTCGGGT ATGACGTGGC

26251  GCGGCAGCGG CAGCAACAGC AGCGGCCACA CAGAAGCAAA GGCGACCGGA
       CGCCGTCGCC GTCGTTGTCG TCGCCGGTGT GTCTTCGTTT CCGCTGGCCT
```

FIG.9A-31

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26301   TAGCAAGACT CTGACAAAGC CCAAGAAATC CACAGCGGCG GCAGCAGCAG
        ATCGTTCTGA GACTGTTTCG GGTTCTTTAG GTGTCGCCGC CGTCGTCGTC

26351   GAGGAGGAGC GCTGCGTCTG GCGCCCAACG AACCCGTATC GACCCGCGAG
        CTCCTCCTCG CGACGCAGAC CGCGGGTTGC TTGGGCATAG CTGGGCGCTC

26401   CTTAGAAACA GGATTTTTCC CACTCTGTAT GCTATATTTC AACAGAGCAG
        GAATCTTTGT CCTAAAAAGG GTGAGACATA CGATATAAAG TTGTCTCGTC

26451   GGGCCAAGAA CAAGAGCTGA AAATAAAAAA CAGGTCTCTG CGATCCCTCA
        CCCGGTTCTT GTTCTCGACT TTTATTTTTT GTCCAGAGAC GCTAGGGAGT

26501   CCCGCAGCTG CCTGTATCAC AAAAGCGAAG ATCAGCTTCG GCGCACGCTG
        GGGCGTCGAC GGACATAGTG TTTTCGCTTC TAGTCGAAGC CGCGTGCGAC

26551   GAAGACGCGG AGGCTCTCTT CAGTAAATAC TGCGCGCTGA CTCTTAAGGA
        CTTCTGCGCC TCCGAGAGAA GTCATTTATG ACGCGCGACT GAGAATTCCT

26601   CTAGTTTCGC GCCCTTTCTC AAATTTAAGC GCGAAAACTA CGTCATCTCC
        GATCAAAGCG CGGGAAAGAG TTTAAATTCG CGCTTTTGAT GCAGTAGAGG

26651   AGCGGCCACA CCCGGCGCCA GCACCTGTTG TCAGCGCCAT TATGAGCAAG
        TCGCCGGTGT GGGCCGCGGT CGTGGACAAC AGTCGCGGTA ATACTCGTTC

26701   GAAATTCCCA CGCCCTACAT GTGGAGTTAC CAGCCACAAA TGGGACTTGC
        CTTTAAGGGT GCGGGATGTA CACCTCAATG GTCGGTGTTT ACCCTGAACG

26751   GGCTGGAGCT GCCCAAGACT ACTCAACCCG AATAAACTAC ATGAGCGCGG
        CCGACCTCGA CGGGTTCTGA TGAGTTGGGC TTATTTGATG TACTCGCGCC

26801   GACCCCACAT GATATCCCGG GTCAACGGAA TACGCGCCCA CCGAAACCGA
        CTGGGGTGTA CTATAGGGCC CAGTTGCCTT ATGCGCGGGT GGCTTTGGCT

26851   ATTCTCCTGG AACAGGCGGC TATTACCACC ACACCTCGTA ATAACCTTAA
        TAAGAGGACC TTGTCCGCCG ATAATGGTGG TGTGGAGCAT TATTGGAATT

26901   TCCCCGTAGT TGGCCCGCTG CCCTGGTGTA CCAGGAAAGT CCCGCTCCCA
        AGGGGCATCA ACCGGGCGAC GGGACCACAT GGTCCTTTCA GGGCGAGGGT

26951   CCACTGTGGT ACTTCCCAGA GACGCCCAGG CCGAAGTTCA GATGACTAAC
        GGTGACACCA TGAAGGGTCT CTGCGGGTCC GGCTTCAAGT CTACTGATTG

27001   TCAGGGGCGC AGCTTGCGGG CGGCTTTCGT CACAGGGTGC GGTCGCCCGG
        AGTCCCCGCG TCGAACGCCC GCCGAAAGCA GTGTCCCACG CCAGCGGGCC

27051   GCAGGGTATA ACTCACCTGA CAATCAGAGG GCGAGGTATT CAGCTCAACG
        CGTCCCATAT TGAGTGGACT GTTAGTCTCC CGCTCCATAA GTCGAGTTGC

27101   ACGAGTCGGT GAGCTCCTCG CTTGGTCTCC GTCCGGACGG GACATTTCAG
        TGCTCAGCCA CTCGAGGAGC GAACCAGAGG CAGGCCTGCC CTGTAAAGTC
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FIG.9A-32

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27151  ATCGGCGGCG CCGGCCGCTC TTCATTCACG CCTCGTCAGG CAATCCTAAC
       TAGCCGCCGC GGCCGGCGAG AAGTAAGTGC GGAGCAGTCC GTTAGGATTG

27201  TCTGCAGACC TCGTCCTCTG AGCCGCGCTC TGGAGGCATT GGAACTCTGC
       AGACGTCTGG AGCAGGAGAC TCGGCGCGAG ACCTCCGTAA CCTTGAGACG

27251  AATTTATTGA GGAGTTTGTG CCATCGGTCT ACTTTAACCC CTTCTCGGGA
       TTAAATAACT CCTCAAACAC GGTAGCCAGA TGAAATTGGG GAAGAGCCCT

27301  CCTCCCGGCC ACTATCCGGA TCAATTTATT CCTAACTTTG ACGCGGTAAA
       GGAGGGCCGG TGATAGGCCT AGTTAAATAA GGATTGAAAC TGCGCCATTT

27351  GGACTCGGCG GACGGCTACG ACTGAATGTT AAGTGGAGAG GCAGAGCAAC
       CCTGAGCCGC CTGCCGATGC TGACTTACAA TTCACCTCTC CGTCTCGTTG

27401  TGCGCCTGAA ACACCTGGTC CACTGTCGCC GCCACAAGTG CTTTGCCCGC
       ACGCGGACTT TGTGGACCAG GTGACAGCGG CGGTGTTCAC GAAACGGGCG

27451  GACTCCGGTG AGTTTTGCTA CTTTGAATTG CCCGAGGATC ATATCGAGGG
       CTGAGGCCAC TCAAAACGAT GAAACTTAAC GGGCTCCTAG TATAGCTCCC

27501  CCCGGCGCAC GGCGTCCGGC TTACCGCCCA GGGAGAGCTT GCCCGTAGCC
       GGGCCGCGTG CCGCAGGCCG AATGGCGGGT CCCTCTCGAA CGGGCATCGG

27551  TGATTCGGGA GTTTACCCAG CGCCCCCTGC TAGTTGAGCG GGACAGGGGA
       ACTAAGCCCT CAAATGGGTC GCGGGGGACG ATCAACTCGC CCTGTCCCCT

27601  CCCTGTGTTC TCACTGTGAT TTGCAACTGT CCTAACCCTG GATTACATCA
       GGGACACAAG AGTGACACTA AACGTTGACA GGATTGGGAC CTAATGTAGT

27651  AGATCTTTGT TGCCATCTCT GTGCTGAGTA TAATAAATAC AGAAATTAAA
       TCTAGAAACA ACGGTAGAGA CACGACTCAT ATTATTTATG TCTTTAATTT

27701  ATATACTGGG GCTCCTATCG CCATCCTGTA AACGCCACCG TCTTCACCCG
       TATATGACCC CGAGGATAGC GGTAGGACAT TTGCGGTGGC AGAAGTGGGC

27751  CCCAAGCAAA CCAAGGCGAA CCTTACCTGG TACTTTTAAC ATCTCTCCCT
       GGGTTCGTTT GGTTCCGCTT GGAATGGACC ATGAAAATTG TAGAGAGGGA

27801  CTGTGATTTA CAACAGTTTC AACCCAGACG GAGTGAGTCT ACGAGAGAAC
       GACACTAAAT GTTGTCAAAG TTGGGTCTGC CTCACTCAGA TGCTCTCTTG

27851  CTCTCCGAGC TCAGCTACTC CATCAGAAAA AACACCACCC TCCTTACCTG
       GAGAGGCTCG AGTCGATGAG GTAGTCTTTT TTGTGGTGGG AGGAATGGAC

27901  CCGGGAACGT ACGAGTGCGT CACCGGCCGC TGCACCACAC CTACCGCCTG
       GGCCCTTGCA TGCTCACGCA GTGGCCGGCG ACGTGGTGTG GATGGCGGAC

27951  ACCGTAAACC AGACTTTTTC CGGACAGACC TCAATAACTC TGTTTACCAG
       TGGCATTTGG TCTGAAAAAG GCCTGTCTGG AGTTATTGAG ACAAATGGTC
```

FIG.9A-33

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28001   AACAGGAGGT GAGCTTAGAA AACCCTTAGG GTATTAGGCC AAAGGCGCAG
        TTGTCCTCCA CTCGAATCTT TTGGGAATCC CATAATCCGG TTTCCGCGTC

28051   CTACTGTGGG GTTTATGAAC AATTCAAGCA ACTCTACGGG CTATTCTAAT
        GATGACACCC CAAATACTTG TTAAGTTCGT TGAGATGCCC GATAAGATTA

28101   TCAGGTTTCT CTAGAATCGG GGTTGGGGTT ATTCTCTGTC TTGTGATTCT
        AGTCCAAAGA GATCTTAGCC CCAACCCCAA TAAGAGACAG AACACTAAGA

28151   CTTTATTCTT ATACTAACGC TTCTCTGCCT AAGGCTCGCC GCCTGCTGTG
        GAAATAAGAA TATGATTGCG AAGAGACGGA TTCCGAGCGG CGGACGACAC

28201   TGCACATTTG CATTTATTGT CAGCTTTTTA AACGCTGGGG TCGCCACCCA
        ACGTGTAAAC GTAAATAACA GTCGAAAAAT TTGCGACCCC AGCGGTGGGT

28251   AGATGATTAG GTACATAATC CTAGGTTTAC TCACCCTTGC GTCAGCCCAC
        TCTACTAATC CATGTATTAG GATCCAAATG AGTGGGAACG CAGTCGGGTG

28301   GGTACCACCC AAAAGGTGGA TTTTAAGGAG CCAGCCTGTA ATGTTACATT
        CCATGGTGGG TTTTCCACCT AAAATTCCTC GGTCGGACAT TACAATGTAA

28351   CGCAGCTGAA GCTAATGAGT GCACCACTCT TATAAAATGC ACCACAGAAC
        GCGTCGACTT CGATTACTCA CGTGGTGAGA ATATTTTACG TGGTGTCTTG

28401   ATGAAAAGCT GCTTATTCGC CACAAAAACA AAATTGGCAA GTATGCTGTT
        TACTTTTCGA CGAATAAGCG GTGTTTTTGT TTTAACCGTT CATACGACAA

28451   TATGCTATTT GGCAGCCAGG TGACACTACA GAGTATAATG TTACAGTTTT
        ATACGATAAA CCGTCGGTCC ACTGTGATGT CTCATATTAC AATGTCAAAA

28501   CCAGGGTAAA AGTCATAAAA CTTTTATGTA TACTTTTCCA TTTTATGAAA
        GGTCCCATTT TCAGTATTTT GAAAATACAT ATGAAAGGT AAAATACTTT

28551   TGTGCGACAT TACCATGTAC ATGAGCAAAC AGTATAAGTT GTGGCCCCCA
        ACACGCTGTA ATGGTACATG TACTCGTTTG TCATATTCAA CACCGGGGGT

28601   CAAAATTGT TGGAAAACAC TGGCACTTTC TGCTGCACTG CTATGCTAAT
        GTTTTAACAC ACCTTTTGTG ACCGTGAAAG ACGACGTGAC GATACGATTA

28651   TACAGTGCTC GCTTTGGTCT GTACCCTACT CTATATTAAA TACAAAAGCA
        ATGTCACGAG CGAAACCAGA CATGGGATGA GATATAATTT ATGTTTTCGT

28701   GACGCAGCTT TATTGAGGAA AAGAAAATGC CTTAATTTAC TAAGTTACAA
        CTGCGTCGAA ATAACTCCTT TTCTTTTACG GAATTAAATG ATTCAATGTT

28751   AGCTAATGTC ACCACTAACT GCTTTACTCG CTGCTTGCAA AACAAATTCA
        TCGATTACAG TGGTGATTGA CGAAATGAGC GACGAACGTT TTGTTTAAGT

28801   AAAAGTTAGC ATTATAATTA GAATAGGATT TAAACCCCCC GGTCATTTCC
        TTTTCAATCG TAATATTAAT CTTATCCTAA ATTTGGGGGG CCAGTAAAGG

FIG.9A-34

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28851   TGCTCAATAC CATTCCCCTG AACAATTGAC TCTATGTGGG ATATGCTCCA
        ACGAGTTATG GTAAGGGGAC TTGTTAACTG AGATACACCC TATACGAGGT

28901   GCGCTACAAC CTTGAAGTCA GGCTTCCTGG ATGTCAGCAT CTGACTTTGG
        CGCGATGTTG GAACTTCAGT CCGAAGGACC TACAGTCGTA GACTGAAACC

28951   CCAGCACCTG TCCCGCGGAT TTGTTCCAGT CCAACTACAG CGACCCACCC
        GGTCGTGGAC AGGGCGCCTA AACAAGGTCA GGTTGATGTC GCTGGGTGGG

29001   TAACAGAGAT GACCAACACA ACCAACGCGG CCGCCGCTAC CGGACTTACA
        ATTGTCTCTA CTGGTTGTGT TGGTTGCGCC GGCGGCGATG GCCTGAATGT

29051   TCTACCACAA ATACACCCCA AGTTTCTGCC TTTGTCAATA ACTGGGATAA
        AGATGGTGTT TATGTGGGGT TCAAAGACGG AAACAGTTAT TGACCCTATT

29101   CTTGGGCATG TGGTGGTTCT CCATAGCGCT TATGTTTGTA TGCCTTATTA
        GAACCCGTAC ACCACCAAGA GGTATCGCGA ATACAAACAT ACGGAATAAT

29151   TTATGTGGCT CATCTGCTGC CTAAAGCGCA AACGCGCCCG ACCACCCATC
        AATACACCGA GTAGACGACG GATTTCGCGT TTGCGCGGGC TGGTGGGTAG

29201   TATAGTCCCA TCATTGTGCT ACACCCAAAC AATGATGGAA TCCATAGATT
        ATATCAGGGT AGTAACACGA TGTGGGTTTG TTACTACCTT AGGTATCTAA

29251   GGACGGACTG AAACACATGT TCTTTTCTCT TACAGTATGA TTAAATGAGA
        CCTGCCTGAC TTTGTGTACA AGAAAAGAGA ATGTCATACT AATTTACTCT

29301   CATGATTCCT CGAGTTTTTA TATTACTGAC CCTTGTTGCG CTTTTTTGTG
        GTACTAAGGA GCTCAAAAAT ATAATGACTG GGAACAACGC GAAAAAACAC

29351   CGTGCTCCAC ATTGGCTGCG GTTTCTCACA TCGAAGTAGA CTGCATTCCA
        GCACGAGGTG TAACCGACGC CAAAGAGTGT AGCTTCATCT GACGTAAGGT

29401   GCCTTCACAG TCTATTTGCT TTACGGATTT GTCACCCTCA CGCTCATCTG
        CGGAAGTGTC AGATAAACGA AATGCCTAAA CAGTGGGAGT GCGAGTAGAC

29451   CAGCCTCATC ACTGTGGTCA TCGCCTTTAT CCAGTGCATT GACTGGGTCT
        GTCGGAGTAG TGACACCAGT AGCGGAAATA GGTCACGTAA CTGACCCAGA

29501   GTGTGCGCTT TGCATATCTC AGACACCATC CCCAGTACAG GGACAGGACT
        CACACGCGAA ACGTATAGAG TCTGTGGTAG GGGTCATGTC CCTGTCCTGA

29551   ATAGCTGAGC TTCTTAGAAT TCTTTAATTA TGAAATTTAC TGTGACTTTT
        TATCGACTCG AAGAATCTTA AGAAATTAAT ACTTTAAATG ACACTGAAAA

29601   CTGCTGATTA TTTGCACCCT ATCTGCGTTT TGTTCCCCGA CCTCCAAGCC
        GACGACTAAT AAACGTGGGA TAGACGCAAA ACAAGGGGCT GGAGGTTCGG

29651   TCAAAGACAT ATATCATGCA GATTCACTCG TATATGGAAT ATTCCAAGTT
        AGTTTCTGTA TATAGTACGT CTAAGTGAGC ATATACCTTA TAAGGTTCAA
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FIG.9A-35

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29701  GCTACAATGA AAAAAGCGAT CTTTCCGAAG CCTGGTTATA TGCAATCATC
       CGATGTTACT TTTTTCGCTA GAAAGGCTTC GGACCAATAT ACGTTAGTAG

29751  TCTGTTATGG TGTTCTGCAG TACCATCTTA GCCCTAGCTA TATATCCCTA
       AGACAATACC ACAAGACGTC ATGGTAGAAT CGGGATCGAT ATATAGGGAT

29801  CCTTGACATT GGCTGGAACG CAATAGATGC CATGAACCAC CCAACTTTCC
       GGAACTGTAA CCGACCTTGC GTTATCTACG GTACTTGGTG GGTTGAAAGG

29851  CCGCGCCCGC TATGCTTCCA CTGCAACAAG TTGTTGCCGG CGGCTTTGTC
       GGCGCGGGCG ATACGAAGGT GACGTTGTTC AACAACGGCC GCCGAAACAG

29901  CCAGCCAATC AGCCTCGCCC ACCTTCTCCC ACCCCCACTG AAATCAGCTA
       GGTCGGTTAG TCGGAGCGGG TGGAAGAGGG TGGGGGTGAC TTTAGTCGAT

29951  CTTTAATCTA ACAGGAGGAG ATGACTGACA CCCTAGATCT AGAAATGGAC
       GAAATTAGAT TGTCCTCCTC TACTGACTGT GGGATCTAGA TCTTTACCTG

30001  GGAATTATTA CAGAGCAGCG CCTGCTAGAA AGACGCAGGG CAGCGGCCGA
       CCTTAATAAT GTCTCGTCGC GGACGATCTT TCTGCGTCCC GTCGCCGGCT

30051  GCAACAGCGC ATGAATCAAG AGCTCCAAGA CATGGTTAAC TTGCACCAGT
       CGTTGTCGCG TACTTAGTTC TCGAGGTTCT GTACCAATTG AACGTGGTCA

30101  GCAAAAGGGG TATCTTTTGT CTCGTAAAGC AGGCCAAAGT CACCTACGAC
       CGTTTTCCCC ATAGAAAACA GAGCATTTCG TCCGGTTTCA GTGGATGCTG

30151  AGTAATACCA CCGGACACCG CCTTAGCTAC AAGTTGCCAA CCAAGCGTCA
       TCATTATGGT GGCCTGTGGC GGAATCGATG TTCAACGGTT GGTTCGCAGT

30201  GAAATTGGTG GTCATGGTGG GAGAAAAGCC CATTACCATA ACTCAGCACT
       CTTTAACCAC CAGTACCACC CTCTTTTCGG GTAATGGTAT TGAGTCGTGA

30251  CGGTAGAAAC CGAAGGCTGC ATTCACTCAC CTTGTCAAGG ACCTGAGGAT
       GCCATCTTTG GCTTCCGACG TAAGTGAGTG GAACAGTTCC TGGACTCCTA

30301  CTCTGCACCC TTATTAAGAC CCTGTGCGGT CTCAAAGATC TTATTCCCTT
       GAGACGTGGG AATAATTCTG GGACACGCCA GAGTTTCTAG AATAAGGGAA

30351  TAACTAATAA AAAAAAATAA TAAAGCATCA CTTACTTAAA ATCAGTTAGC
       ATTGATTATT TTTTTTTATT ATTTCGTAGT GAATGAATTT TAGTCAATCG

30401  AAATTTCTGT CCAGTTTATT CAGCAGCACC TCCTTGCCCT CCTCCCAGCT
       TTTAAAGACA GGTCAAATAA GTCGTCGTGG AGGAACGGGA GGAGGGTCGA

30451  CTGGTATTGC AGCTTCCTCC TGGCTGCAAA CTTTCTCCAC AATCTAAATG
       GACCATAACG TCGAAGGAGG ACCGACGTTT GAAAGAGGTG TTAGATTTAC

30501  GAATGTCAGT TTCCTCCTGT TCCTGTCCAT CCGCACCCAC TATCTTCATG
       CTTACAGTCA AAGGAGGACA AGGACAGGTA GGCGTGGGTG ATAGAAGTAC
```

FIG.9A-36

30551 TTGTTGCAGA TGAAGCGCGC AAGACCGTCT GAAGATACCT TCAACCCCGT
AACAACGTCT ACTTCGCGCG TTCTGGCAGA CTTCTATGGA AGTTGGGGCA

30601 GTATCCATAT GACACGGAAA CCGGTCCTCC AACTGTGCCT TTTCTTACTC
CATAGGTATA CTGTGCCTTT GGCCAGGAGG TTGACACGGA AAAGAATGAG

30651 CTCCCTTTGT ATCCCCCAAT GGGTTTCAAG AGAGTCCCCC TGGGGTACTC
GAGGGAAACA TAGGGGGTTA CCCAAAGTTC TCTCAGGGGG ACCCCATGAG

30701 TCTTTGCGCC TATCCGAACC TCTAGTTACC TCCAATGGCA TGCTTGCGCT
AGAAACGCGG ATAGGCTTGG AGATCAATGG AGGTTACCGT ACGAACGCGA

30751 CAAAATGGGC AACGGCCTCT CTCTGGACGA GGCCGGCAAC CTTACCTCCC
GTTTTACCCG TTGCCGGAGA GAGACCTGCT CCGGCCGTTG GAATGGAGGG

30801 AAAATGTAAC CACTGTGAGC CCACCTCTCA AAAAAACCAA GTCAAACATA
TTTTACATTG GTGACACTCG GGTGGAGAGT TTTTTTGGTT CAGTTTGTAT

30851 AACCTGGAAA TATCTGCACC CCTCACAGTT ACCTCAGAAG CCCTAACTGT
TTGGACCTTT ATAGACGTGG GGAGTGTCAA TGGAGTCTTC GGGATTGACA

30901 GGCTGCCGCC GCACCTCTAA TGGTCGCGGG CAACACACTC ACCATGCAAT
CCGACGGCGG CGTGGAGATT ACCAGCGCCC GTTGTGTGAG TGGTACGTTA

30951 CACAGGCCCC GCTAACCGTG CACGACTCCA AACTTAGCAT TGCCACCCAA
GTGTCCGGGG CGATTGGCAC GTGCTGAGGT TTGAATCGTA ACGGTGGGTT

31001 GGACCCCTCA CAGTGTCAGA AGGAAAGCTA GCCCTGCAAA CATCAGGCCC
CCTGGGGAGT GTCACAGTCT TCCTTTCGAT CGGGACGTTT GTAGTCCGGG

31051 CCTCACCACC ACCGATAGCA GTACCCTTAC TATCACTGCC TCACCCCCTT
GGAGTGGTGG TGGCTATCGT CATGGGAATG ATAGTGACGG AGTGGGGGAA

31101 TAACTACTGC CACTGGTAGC TTGGGCATTG ACTTGAAAGA GCCCATTTAT
ATTGATGACG GTGACCATCG AACCCGTAAC TGAACTTTCT CGGGTAAATA

31151 ACACAAAATG GAAAACTAGG ACTAAAGTAC GGGGCTCCTT TGCATGTAAC
TGTGTTTTAC CTTTTGATCC TGATTTCATG CCCCGAGGAA ACGTACATTG

31201 AGACGACCTA AACACTTTGA CCGTAGCAAC TGGTCCAGGT GTGACTATTA
TCTGCTGGAT TTGTGAAACT GGCATCGTTG ACCAGGTCCA CACTGATAAT

31251 ATAATACTTC CTTGCAAACT AAAGTTACTG GAGCCTTGGG TTTTGATTCA
TATTATGAAG GAACGTTTGA TTTCAATGAC CTCGGAACCC AAAACTAAGT

31301 CAAGGCAATA TGCAACTTAA TGTAGCAGGA GGACTAAGGA TTGATTCTCA
GTTCCGTTAT ACGTTGAATT ACATCGTCCT CCTGATTCCT AACTAAGAGT

31351 AAACAGACGC CTTATACTTG ATGTTAGTTA TCCGTTTGAT GCTCAAAACC
TTTGTCTGCG GAATATGAAC TACAATCAAT AGGCAAACTA CGAGTTTTGG

FIG.9A-37

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31401  AACTAAATCT AAGACTAGGA CAGGGCCCTC TTTTTATAAA CTCAGCCCAC
       TTGATTTAGA TTCTGATCCT GTCCCGGGAG AAAAATATTT GAGTCGGGTG

31451  AACTTGGATA TTAACTACAA CAAAGGCCTT TACTTGTTTA CAGCTTCAAA
       TTGAACCTAT AATTGATGTT GTTTCCGGAA ATGAACAAAT GTCGAAGTTT

31501  CAATTCCAAA AAGCTTGAGG TTAACCTAAG CACTGCCAAG GGGTTGATGT
       GTTAAGGTTT TTCGAACTCC AATTGGATTC GTGACGGTTC CCCAACTACA

31551  TTGACGCTAC AGCCATAGCC ATTAATGCAG GAGATGGGCT TGAATTTGGT
       AACTGCGATG TCGGTATCGG TAATTACGTC CTCTACCCGA ACTTAAACCA

31601  TCACCTAATG CACCAAACAC AAATCCCCTC AAAACAAAAA TTGGCCATGG
       AGTGGATTAC GTGGTTTGTG TTTAGGGGAG TTTTGTTTTT AACCGGTACC

31651  CCTAGAATTT GATTCAAACA AGGCTATGGT TCCTAAACTA GGAACTGGCC
       GGATCTTAAA CTAAGTTTGT TCCGATACCA AGGATTTGAT CCTTGACCGG

31701  TTAGTTTTGA CAGCACAGGT GCCATTACAG TAGGAAACAA AAATAATGAT
       AATCAAAACT GTCGTGTCCA CGGTAATGTC ATCCTTTGTT TTTATTACTA

31751  AAGCTAACTT TGTGGACCAC ACCAGCTCCA TCTCCTAACT GTAGACTAAA
       TTCGATTGAA ACACCTGGTG TGGTCGAGGT AGAGGATTGA CATCTGATTT

31801  TGCAGAGAAA GATGCTAAAC TCACTTTGGT CTTAACAAAA TGTGGCAGTC
       ACGTCTCTTT CTACGATTTG AGTGAAACCA GAATTGTTTT ACACCGTCAG

31851  AAATACTTGC TACAGTTTCA GTTTTGGCTG TTAAAGGCAG TTTGGCTCCA
       TTTATGAACG ATGTCAAAGT CAAAACCGAC AATTTCCGTC AAACCGAGGT

31901  ATATCTGGAA CAGTTCAAAG TGCTCATCTT ATTATAAGAT TTGACGAAAA
       TATAGACCTT GTCAAGTTTC ACGAGTAGAA TAATATTCTA AACTGCTTTT

31951  TGGAGTGCTA CTAAACAATT CCTTCCTGGA CCCAGAATAT TGGAACTTTA
       ACCTCACGAT GATTTGTTAA GGAAGGACCT GGGTCTTATA ACCTTGAAAT

32001  GAAATGGAGA TCTTACTGAA GGCACAGCCT ATACAAACGC TGTTGGATTT
       CTTTACCTCT AGAATGACTT CCGTGTCGGA TATGTTTGCG ACAACCTAAA

32051  ATGCCTAACC TATCAGCTTA TCCAAAATCT CACGGTAAAA CTGCCAAAAG
       TACGGATTGG ATAGTCGAAT AGGTTTTAGA GTGCCATTTT GACGGTTTTC

32101  TAACATTGTC AGTCAAGTTT ACTTAAACGG AGACAAAACT AAACCTGTAA
       ATTGTAACAG TCAGTTCAAA TGAATTTGCC TCTGTTTTGA TTTGGACATT

32151  CACTAACCAT TACACTAAAC GGTACACAGG AAACAGGAGA CACAACTCCA
       GTGATTGGTA ATGTGATTTG CCATGTGTCC TTTGTCCTCT GTGTTGAGGT

32201  AGTGCATACT CTATGTCATT TTCATGGGAC TGGTCTGGCC ACAACTACAT
       TCACGTATGA GATACAGTAA AAGTACCCTG ACCAGACCGG TGTTGATGTA
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FIG.9A-38

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32251   TAATGAAATA TTTGCCACAT CCTCTTACAC TTTTTCATAC ATTGCCCAAG
        ATTACTTTAT AAACGGTGTA GGAGAATGTG AAAAAGTATG TAACGGGTTC

32301   AATAAAGAAT CGTTTGTGTT ATGTTTCAAC GTGTTTATTT TTCAATTGCA
        TTATTTCTTA GCAAACACAA TACAAAGTTG CACAAATAAA AAGTTAACGT

32351   GAAAATTTCA AGTCATTTTT CATTCAGTAG TATAGCCCCA CCACCACATA
        CTTTTAAAGT TCAGTAAAAA GTAAGTCATC ATATCGGGGT GGTGGTGTAT

32401   GCTTATACAG ATCACCGTAC CTTAATCAAA CTCACAGAAC CCTAGTATTC
        CGAATATGTC TAGTGGCATG GAATTAGTTT GAGTGTCTTG GGATCATAAG

32451   AACCTGCCAC CTCCCTCCCA ACACACAGAG TACACAGTCC TTTCTCCCCG
        TTGGACGGTG GAGGGAGGGT TGTGTGTCTC ATGTGTCAGG AAAGAGGGGC

32501   GCTGGCCTTA AAAAGCATCA TATCATGGGT AACAGACATA TTCTTAGGTG
        CGACCGGAAT TTTTCGTAGT ATAGTACCCA TTGTCTGTAT AAGAATCCAC

32551   TTATATTCCA CACGGTTTCC TGTCGAGCCA AACGCTCATC AGTGATATTA
        AATATAAGGT GTGCCAAAGG ACAGCTCGGT TTGCGAGTAG TCACTATAAT

32601   ATAAACTCCC CGGGCAGCTC ACTTAAGTTC ATGTCGCTGT CCAGCTGCTG
        TATTTGAGGG GCCCGTCGAG TGAATTCAAG TACAGCGACA GGTCGACGAC

32651   AGCCACAGGC TGCTGTCCAA CTTGCGGTTG CTTAACGGGC GGCGAAGGAG
        TCGGTGTCCG ACGACAGGTT GAACGCCAAC GAATTGCCCG CCGCTTCCTC

32701   AAGTCCACGC CTACATGGGG GTAGAGTCAT AATCGTGCAT CAGGATAGGG
        TTCAGGTGCG GATGTACCCC CATCTCAGTA TTAGCACGTA GTCCTATCCC

32751   CGGTGGTGCT GCAGCAGCGC GCGAATAAAC TGCTGCCGCC GCCGCTCCGT
        GCCACCACGA CGTCGTCGCG CGCTTATTTG ACGACGGCGG CGGCGAGGCA

32801   CCTGCAGGAA TACAACATGG CAGTGGTCTC CTCAGCGATG ATTCGCACCG
        GGACGTCCTT ATGTTGTACC GTCACCAGAG GAGTCGCTAC TAAGCGTGGC

32851   CCCGCAGCAT AAGGCGCCTT GTCCTCCGGG CACAGCAGCG CACCCTGATC
        GGGCGTCGTA TTCCGCGGAA CAGGAGGCCC GTGTCGTCGC GTGGGACTAG

32901   TCACTTAAAT CAGCACAGTA ACTGCAGCAC AGCACCACAA TATTGTTCAA
        AGTGAATTTA GTCGTGTCAT TGACGTCGTG TCGTGGTGTT ATAACAAGTT

32951   AATCCCACAG TGCAAGGCGC TGTATCCAAA GCTCATGGCG GGGACCACAG
        TTAGGGTGTC ACGTTCCGCG ACATAGGTTT CGAGTACCGC CCCTGGTGTC

33001   AACCCACGTG GCCATCATAC CACAAGCGCA GGTAGATTAA GTGGCGACCC
        TTGGGTGCAC CGGTAGTATG GTGTTCGCGT CCATCTAATT CACCGCTGGG

33051   CTCATAAACA CGCTGGACAT AAACATTACC TCTTTTGGCA TGTTGTAATT
        GAGTATTTGT GCGACCTGTA TTTGTAATGG AGAAAACCGT ACAACATTAA
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FIG.9A-39

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33101  CACCACCTCC CGGTACCATA TAAACCTCTG ATTAAACATG GCGCCATCCA
       GTGGTGGAGG GCCATGGTAT ATTTGGAGAC TAATTTGTAC CGCGGTAGGT

33151  CCACCATCCT AAACCAGCTG GCCAAAACCT GCCCGCCGGC TATACACTGC
       GGTGGTAGGA TTTGGTCGAC CGGTTTTGGA CGGGCGGCCG ATATGTGACG

33201  AGGGAACCGG GACTGGAACA ATGACAGTGG AGAGCCCAGG ACTCGTAACC
       TCCCTTGGCC CTGACCTTGT TACTGTCACC TCTCGGGTCC TGAGCATTGG

33251  ATGGATCATC ATGCTCGTCA TGATATCAAT GTTGGCACAA CACAGGCACA
       TACCTAGTAG TACGAGCAGT ACTATAGTTA CAACCGTGTT GTGTCCGTGT

33301  CGTGCATACA CTTCCTCAGG ATTACAAGCT CCTCCCGCGT TAGAACCATA
       GCACGTATGT GAAGGAGTCC TAATGTTCGA GGAGGGCGCA ATCTTGGTAT

33351  TCCCAGGGAA CAACCCATTC CTGAATCAGC GTAAATCCCA CACTGCAGGG
       AGGGTCCCTT GTTGGGTAAG GACTTAGTCG CATTTAGGGT GTGACGTCCC

33401  AAGACCTCGC ACGTAACTCA CGTTGTGCAT TGTCAAAGTG TTACATTCGG
       TTCTGGAGCG TGCATTGAGT GCAACACGTA ACAGTTTCAC AATGTAAGCC

33451  GCAGCAGCGG ATGATCCTCC AGTATGGTAG CGCGGGTTTC TGTCTCAAAA
       CGTCGTCGCC TACTAGGAGG TCATACCATC GCGCCCAAAG ACAGAGTTTT

33501  GGAGGTAGAC GATCCCTACT GTACGGAGTG CGCCGAGACA ACCGAGATCG
       CCTCCATCTG CTAGGGATGA CATGCCTCAC GCGGCTCTGT TGGCTCTAGC

33551  TGTTGGTCGT AGTGTCATGC CAAATGGAAC GCCGGACGTA GTCATATTTC
       ACAACCAGCA TCACAGTACG GTTTACCTTG CGGCCTGCAT CAGTATAAAG

33601  CTGAAGCAAA ACCAGGTGCG GGCGTGACAA ACAGATCTGC GTCTCCGGTC
       GACTTCGTTT TGGTCCACGC CCGCACTGTT TGTCTAGACG CAGAGGCCAG

33651  TCGCCGCTTA GATCGCTCTG TGTAGTAGTT GTAGTATATC CACTCTCTCA
       AGCGGCGAAT CTAGCGAGAC ACATCATCAA CATCATATAG GTGAGAGAGT

33701  AAGCATCCAG GCGCCCCCTG GCTTCGGGTT CTATGTAAAC TCCTTCATGC
       TTCGTAGGTC CGCGGGGGAC CGAAGCCCAA GATACATTTG AGGAAGTACG

33751  GCCGCTGCCC TGATAACATC CACCACCGCA GAATAAGCCA CACCCAGCCA
       CGGCGACGGG ACTATTGTAG GTGGTGGCGT CTTATTCGGT GTGGGTCGGT

33801  ACCTACACAT TCGTTCTGCG AGTCACACAC GGGAGGAGCG GGAAGAGCTG
       TGGATGTGTA AGCAAGACGC TCAGTGTGTG CCCTCCTCGC CCTTCTCGAC

33851  GAAGAACCAT GTTTTTTTTT TTATTCCAAA AGATTATCCA AAACCTCAAA
       CTTCTTGGTA CAAAAAAAAA AATAAGGTTT TCTAATAGGT TTTGGAGTTT

33901  ATGAAGATCT ATTAAGTGAA CGCGCTCCCC TCCGGTGGCG TGGTCAAACT
       TACTTCTAGA TAATTCACTT GCGCGAGGGG AGGCCACCGC ACCAGTTTGA
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FIG.9A-40

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33951  CTACAGCCAA AGAACAGATA ATGGCATTTG TAAGATGTTG CACAATGGCT
       GATGTCGGTT TCTTGTCTAT TACCGTAAAC ATTCTACAAC GTGTTACCGA

34001  TCCAAAAGGC AAACGGCCCT CACGTCCAAG TGGACGTAAA GGCTAAACCC
       AGGTTTTCCG TTTGCCGGGA GTGCAGGTTC ACCTGCATTT CCGATTTGGG

34051  TTCAGGGTGA ATCTCCTCTA TAAACATTCC AGCACCTTCA ACCATGCCCA
       AAGTCCCACT TAGAGGAGAT ATTTGTAAGG TCGTGGAAGT TGGTACGGGT

34101  AATAATTCTC ATCTCGCCAC CTTCTCAATA TATCTCTAAG CAAATCCCGA
       TTATTAAGAG TAGAGCGGTG GAAGAGTTAT ATAGAGATTC GTTTAGGGCT

34151  ATATTAAGTC CGGCCATTGT AAAAATCTGC TCCAGAGCGC CCTCCACCTT
       TATAATTCAG .GCCGGTAACA TTTTTAGACG AGGTCTCGCG GGAGGTGGAA

34201  CAGCCTCAAG CAGCGAATCA TGATTGCAAA AATTCAGGTT CCTCACAGAC
       GTCGGAGTTC GTCGCTTAGT ACTAACGTTT TTAAGTCCAA GGAGTGTCTG

34251  CTGTATAAGA TTCAAAAGCG GAACATTAAC AAAAATACCG CGATCCCGTA
       GACATATTCT AAGTTTTCGC CTTGTAATTG TTTTTATGGC GCTAGGGCAT

34301  GGTCCCTTCG CAGGGCCAGC TGAACATAAT CGTGCAGGTC TGCACGGACC.
       CCAGGGAAGC GTCCCGGTCG ACTTGTATTA GCACGTCCAG ACGTGCCTGG

34351  AGCGCGGCCA CTTCCCCGCC AGGAACCATG ACAAAAGAAC CCACACTGAT
       TCGCGCCGGT GAAGGGGCGG TCCTTGGTAC TGTTTTCTTG GGTGTGACTA

34401  TATGACACGC ATACTCGGAG CTATGCTAAC CAGCGTAGCC CCGATGTAAG
       ATACTGTGCG TATGAGCCTC GATACGATTG GTCGCATCGG GGCTACATTC

34451  CTTGTTGCAT GGGCGGCGAT ATAAAATGCA AGGTGCTGCT CAAAAAATCA
       GAACAACGTA CCCGCCGCTA TATTTTACGT TCCACGACGA GTTTTTTAGT

34501  GGCAAAGCCT CGCGCAAAAA AGAAAGCACA TCGTAGTCAT GCTCATGCAG
       CCGTTTCGGA GCGCGTTTTT TCTTTCGTGT AGCATCAGTA CGAGTACGTC

34551  ATAAAGGCAG GTAAGCTCCG GAACCACCAC AGAAAAAGAC ACCATTTTTC
       TATTTCCGTC CATTCGAGGC CTTGGTGGTG TCTTTTTCTG TGGTAAAAAG

34601  TCTCAAACAT GTCTGCGGGT TTCTGCATAA ACACAAAATA AAATAACAAA
       AGAGTTTGTA CAGACGCCCA AAGACGTATT TGTGTTTTAT TTTATTGTTT

34651  AAAACATTTA AACATTAGAA GCCTGTCTTA CAACAGGAAA AACAACCCTT
       TTTTGTAAAT TTGTAATCTT CGGACAGAAT GTTGTCCTTT TTGTTGGGAA

34701  ATAAGCATAA GACGGACTAC GGCCATGCCG GCGTGACCGT AAAAAAACTG
       TATTCGTATT CTGCCTGATG CCGGTACGGC CGCACTGGCA TTTTTTTGAC

34751  GTCACCGTGA TTAAAAAGCA CCACCGACAG CTCCTCGGTC ATGTCCGGAG
       CAGTGGCACT AATTTTTCGT GGTGGCTGTC GAGGAGCCAG TACAGGCCTC
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FIG.9A-41

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34801   TCATAATGTA AGACTCGGTA AACACATCAG GTTGATTCAC ATCGGTCAGT
        AGTATTACAT TCTGAGCCAT TTGTGTAGTC CAACTAAGTG TAGCCAGTCA

34851   GCTAAAAAGC GACCGAAATA GCCCGGGGGA ATACATACCC GCAGGCGTAG
        CGATTTTTCG CTGGCTTTAT CGGGCCCCCT TATGTATGGG CGTCCGCATC

34901   AGACAACATT ACAGCCCCCA TAGGAGGTAT AACAAAATTA ATAGGAGAGA
        TCTGTTGTAA TGTCGGGGGT ATCCTCCATA TTGTTTTAAT TATCCTCTCT

34951   AAAACACATA AACACCTGAA AAACCCTCCT GCCTAGGCAA AATAGCACCC
        TTTTGTGTAT TTGTGGACTT TTTGGGAGGA CGGATCCGTT TTATCGTGGG

35001   TCCCGCTCCA GAACAACATA CAGCGCTTCC ACAGCGGCAG CCATAACAGT
        AGGGCGAGGT CTTGTTGTAT GTCGCGAAGG TGTCGCCGTC GGTATTGTCA

35051   CAGCCTTACC AGTAAAAAAG AAAACCTATT AAAAAAACAC CACTCGACAC
        GTCGGAATGG TCATTTTTTC TTTTGGATAA TTTTTTTGTG GTGAGCTGTG

35101   GGCACCAGCT CAATCAGTCA CAGTGTAAAA AAGGGCCAAG TGCAGAGCGA
        CCGTGGTCGA GTTAGTCAGT GTCACATTTT TTCCCGGTTC ACGTCTCGCT

35151   GTATATATAG GACTAAAAAA TGACGTAACG GTTAAAGTCC ACAAAAAACA
        CATATATATC CTGATTTTTT ACTGCATTGC CAATTTCAGG TGTTTTTTGT

35201   CCCAGAAAAC CGCACGCGAA CCTACGCCCA GAAACGAAAG CCAAAAAACC
        GGGTCTTTTG GCGTGCGCTT GGATGCGGGT CTTTGCTTTC GGTTTTTTGG

35251   CACAACTTCC TCAAATCGTC ACTTCCGTTT TCCCACGTTA CGTCACTTCC
        GTGTTGAAGG AGTTTAGCAG TGAAGGCAAA AGGGTGCAAT GCAGTGAAGG

35301   CATTTTAAGA AAACTACAAT TCCCAACACA TACAAGTTAC TCCGCCCTAA
        GTAAAATTCT TTTGATGTTA AGGGTTGTGT ATGTTCAATG AGGCGGGATT

35351   AACCTACGTC ACCCGCCCCG TTCCCACGCC CCGCGCCACG TCACAAACTC
        TTGGATGCAG TGGGCGGGGC AAGGGTGCGG GGCGCGGTGC AGTGTTTGAG

35401   CACCCCCTCA TTATCATATT GGCTTCAATC CAAAATAAGG TATATTATTG
        GTGGGGGAGT AATAGTATAA CCGAAGTTAG GTTTTATTCC ATATAATAAC

                    PacI
                 ---------
35451   ATGATGTTAA TTAAGAATTC GGATCTGCGA CGCGAGGCTG GATGGCCTTC
        TACTACAATT AATTCTTAAG CCTAGACGCT GCGCTCCGAC CTACCGGAAG

35501   CCCATTATGA TTCTTCTCGC TTCCGGCGGC ATCGGGATGC CCGCGTTGCA
        GGGTAATACT AAGAAGAGCG AAGGCCGCCG TAGCCCTACG GGCGCAACGT

35551   GGCCATGCTG TCCAGGCAGG TAGATGACGA CCATCAGGGA CAGCTTCAAG
        CCGGTACGAC AGGTCCGTCC ATCTACTGCT GGTAGTCCCT GTCGAAGTTC
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FIG.9A-42

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35601   GCCAGCAAAA GGCCAGGAAC CGTAAAAAGG CCGCGTTGCT GGCGTTTTTC
        CGGTCGTTTT CCGGTCCTTG GCATTTTTCC GGCGCAACGA CCGCAAAAAG

35651   CATAGGCTCC GCCCCCCTGA CGAGCATCAC AAAAATCGAC GCTCAAGTCA
        GTATCCGAGG CGGGGGGACT GCTCGTAGTG TTTTTAGCTG CGAGTTCAGT

35701   GAGGTGGCGA AACCCGACAG GACTATAAAG ATACCAGGCG TTTCCCCCTG
        CTCCACCGCT TTGGGCTGTC CTGATATTTC TATGGTCCGC AAAGGGGGAC

35751   GAAGCTCCCT CGTGCGCTCT CCTGTTCCGA CCCTGCCGCT TACCGGATAC
        CTTCGAGGGA GCACGCGAGA GGACAAGGCT GGGACGGCGA ATGGCCTATG

35801   CTGTCCGCCT TTCTCCCTTC GGGAAGCGTG GCGCTTTCTC ATAGCTCACG
        GACAGGCGGA AAGAGGGAAG CCCTTCGCAC CGCGAAAGAG TATCGAGTGC

35851   CTGTAGGTAT CTCAGTTCGG TGTAGGTCGT TCGCTCCAAG CTGGGCTGTG
        GACATCCATA GAGTCAAGCC ACATCCAGCA AGCGAGGTTC GACCCGACAC

35901   TGCACGAACC CCCCGTTCAG CCCGACCGCT GCGCCTTATC CGGTAACTAT
        ACGTGCTTGG GGGGCAAGTC GGGCTGGCGA CGCGGAATAG GCCATTGATA

35951   CGTCTTGAGT CCAACCCGGT AAGACACGAC TTATCGCCAC TGGCAGCAGC
        GCAGAACTCA GGTTGGGCCA TTCTGTGCTG AATAGCGGTG ACCGTCGTCG

36001   CACTGGTAAC AGGATTAGCA GAGCGAGGTA TGTAGGCGGT GCTACAGAGT
        GTGACCATTG TCCTAATCGT CTCGCTCCAT ACATCCGCCA CGATGTCTCA

36051   TCTTGAAGTG GTGGCCTAAC TACGGCTACA CTAGAAGGAC AGTATTTGGT
        AGAACTTCAC CACCGGATTG ATGCCGATGT GATCTTCCTG TCATAAACCA

36101   ATCTGCGCTC TGCTGAAGCC AGTTACCTTC GGAAAAAGAG TTGGTAGCTC
        TAGACGCGAG ACGACTTCGG TCAATGGAAG CCTTTTTCTC AACCATCGAG

36151   TTGATCCGGC AAACAAACCA CCGCTGGTAG CGGTGGTTTT TTTGTTTGCA
        AACTAGGCCG TTTGTTTGGT GGCGACCATC GCCACCAAAA AAACAAACGT

36201   AGCAGCAGAT TACGCGCAGA AAAAAAGGAT CTCAAGAAGA TCCTTTGATC
        TCGTCGTCTA ATGCGCGTCT TTTTTTCCTA GAGTTCTTCT AGGAAACTAG

36251   TTTTCTACGG GGTCTGACGC TCAGTGGAAC GAAAACTCAC GTTAAGGGAT
        AAAAGATGCC CCAGACTGCG AGTCACCTTG CTTTTGAGTG CAATTCCCTA

36301   TTTGGTCATG AGATTATCAA AAAGGATCTT CACCTAGATC CTTTTAAATC
        AAACCAGTAC TCTAATAGTT TTTCCTAGAA GTGGATCTAG GAAAATTTAG

36351   AATCTAAAGT ATATATGAGT AAACTTGGTC TGACAGTTAC CAATGCTTAA
        TTAGATTTCA TATATACTCA TTTGAACCAG ACTGTCAATG GTTACGAATT

36401   TCAGTGAGGC ACCTATCTCA GCGATCTGTC TATTTCGTTC ATCCATAGTT
        AGTCACTCCG TGGATAGAGT CGCTAGACAG ATAAAGCAAG TAGGTATCAA

FIG.9A-43

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36451   GCCTGACTCC CCGTCGTGTA GATAACTACG ATACGGGAGG GCTTACCATC
        CGGACTGAGG GGCAGCACAT CTATTGATGC TATGCCCTCC CGAATGGTAG

36501   TGGCCCCAGT GCTGCAATGA TACCGCGAGA CCCACGCTCA CCGGCTCCAG
        ACCGGGGTCA CGACGTTACT ATGGCGCTCT GGGTGCGAGT GGCCGAGGTC

36551   ATTTATCAGC AATAAACCAG CCAGCCGGAA GGGCCGAGCG CAGAAGTGGT
        TAAATAGTCG TTATTTGGTC GGTCGGCCTT CCCGGCTCGC GTCTTCACCA

36601   CCTGCAACTT TATCCGCCTC CATCCAGTCT ATTAATTGTT GCCGGGAAGC
        GGACGTTGAA ATAGGCGGAG GTAGGTCAGA TAATTAACAA CGGCCCTTCG

36651   TAGAGTAAGT AGTTCGCCAG TTAATAGTTT GCGCAACGTT GTTGCCATTG
        ATCTCATTCA TCAAGCGGTC AATTATCAAA CGCGTTGCAA CAACGGTAAC

36701   CTACAGGCAT CGTGGTGTCA CGCTCGTCGT TTGGTATGGC TTCATTCAGC
        GATGTCCGTA GCACCACAGT GCGAGCAGCA AACCATACCG AAGTAAGTCG

36751   TCCGGTTCCC AACGATCAAG GCGAGTTACA TGATCCCCCA TGTTGTGCAA
        AGGCCAAGGG TTGCTAGTTC CGCTCAATGT ACTAGGGGGT ACAACACGTT

36801   AAAAGCGGTT AGCTCCTTCG GTCCTCCGAT CGTTGTCAGA AGTAAGTTGG
        TTTTCGCCAA TCGAGGAAGC CAGGAGGCTA GCAACAGTCT TCATTCAACC

36851   CCGCAGTGTT ATCACTCATG GTTATGGCAG CACTGCATAA TTCTCTTACT
        GGCGTCACAA TAGTGAGTAC CAATACCGTC GTGACGTATT AAGAGAATGA

36901   GTCATGCCAT CCGTAAGATG CTTTTCTGTG ACTGGTGAGT ACTCAACCAA
        CAGTACGGTA GGCATTCTAC GAAAAGACAC TGACCACTCA TGAGTTGGTT

36951   GTCATTCTGA GAATAGTGTA TGCGGCGACC GAGTTGCTCT TGCCCGGCGT
        CAGTAAGACT CTTATCACAT ACGCCGCTGG CTCAACGAGA ACGGGCCGCA

37001   CAACACGGGA TAATACCGCG CCACATAGCA GAACTTTAAA AGTGCTCATC
        GTTGTGCCCT ATTATGGCGC GGTGTATCGT CTTGAAATTT TCACGAGTAG

37051   ATTGGAAAAC GTTCTTCGGG GCGAAAACTC TCAAGGATCT TACCGCTGTT
        TAACCTTTTG CAAGAAGCCC CGCTTTTGAG AGTTCCTAGA ATGGCGACAA

37101   GAGATCCAGT TCGATGTAAC CCACTCGTGC ACCCAACTGA TCTTCAGCAT
        CTCTAGGTCA AGCTACATTG GGTGAGCACG TGGGTTGACT AGAAGTCGTA

37151   CTTTTACTTT CACCAGCGTT TCTGGGTGAG CAAAAACAGG AAGGCAAAAT
        GAAAATGAAA GTGGTCGCAA AGACCCACTC GTTTTTGTCC TTCCGTTTTA

37201   GCCGCAAAAA AGGGAATAAG GGCGACACGG AAATGTTGAA TACTCATACT
        CGGCGTTTTT TCCCTTATTC CCGCTGTGCC TTTACAACTT ATGAGTATGA

37251   CTTCCTTTTT CAATATTATT GAAGCATTTA TCAGGGTTAT TGTCTCATGA
        GAAGGAAAAA GTTATAATAA CTTCGTAAAT AGTCCCAATA ACAGAGTACT
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FIG.9A-44

37301   GCGGATACAT ATTTGAATGT ATTTAGAAAA ATAAACAAAT AGGGGTTCCG
        CGCCTATGTA TAAACTTACA TAAATCTTTT TATTTGTTTA TCCCCAAGGC

37351   CGCACATTTC CCCGAAAAGT GCCACCTGAC GTCTAAGAAA CCATTATTAT
        GCGTGTAAAG GGGCTTTTCA CGGTGGACTG CAGATTCTTT GGTAATAATA

37401   CATGACATTA ACCTATAAAA ATAGGCGTAT CACGAGGCCC TTTCGTCTTC
        GTACTGTAAT TGGATATTTT TATCCGCATA GTGCTCCGGG AAAGCAGAAG

37451   AAGAATTGGA TCCGAATTCT TAAT
        TTCTTAACCT AGGCTTAAGA ATTA

FIG.9A-45
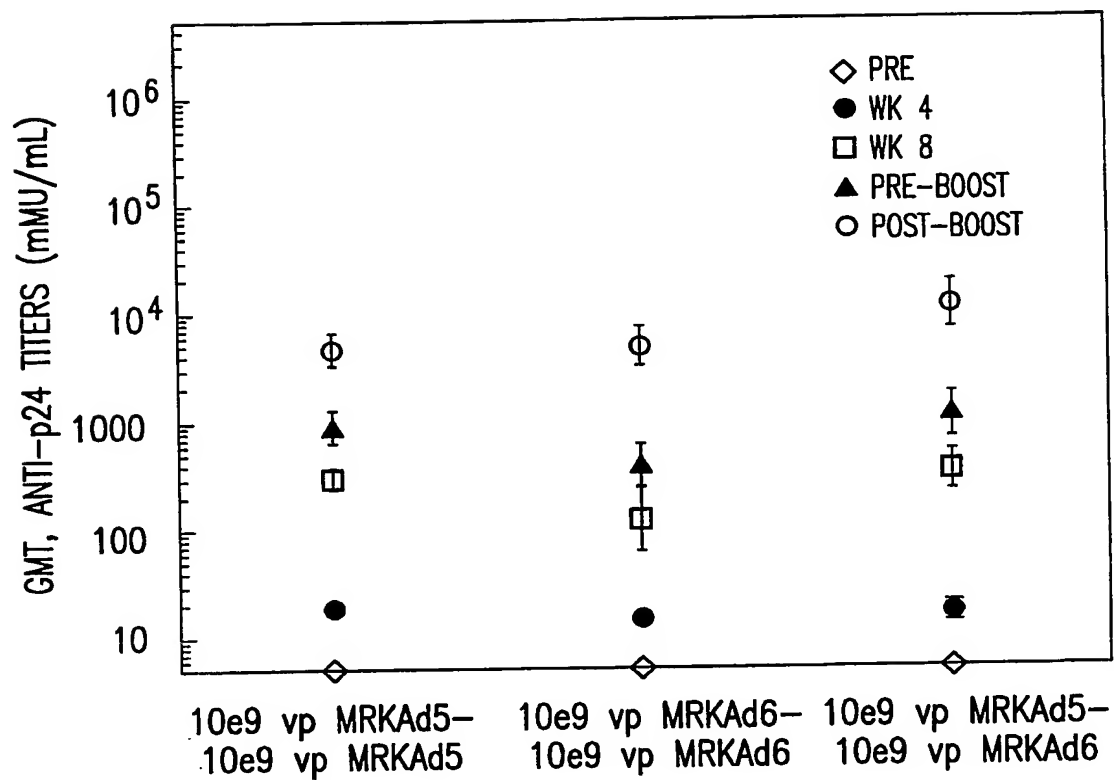
FIG.10

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   1 CATCATCAAT AATATACCTT ATTTTGGATT GAAGCCAATA TGATAATGAG GGGGTGGAGT
  61 TTGTGACGTG GCGCGGGGCG TGGGAACGGG GCGGGTGACG TAGTAGTGTG GCGGAAGTGT
 121 GATGTTGTAA GTGTGGCGGA ACACATGTAA GCGCCGGATG TGGTAAAAGT GACGTTTTTG
 181 GTGTGCGCCG GTGTACACGG GAAGTGACAA TTTTCGCGCG GTTTTAGGCG GATGTTGTAG
 241 TAAATTTGGG CGTAACCAAG TAATATTTGG CCATTTTCGC GGGAAAACTG AATAAGAGGA
 301 AGTGAAATCT GAATAATTCT GTGTTACTCA TAGCGCGTAA TATTTGTCTA GGGCCGCGGG
 361 GACTTTGACC GTTTACGTGG AGACTCGCCC AGGTGTTTTT CTCAGGTGTT TTCCGCGTTC
 421 CGGGTCAAAG TTGGCGTTTT ATTATTATAG TCAGCTGACG CGCAGTGTAT TTATACCCGG
 481 TGAGTTCCTC AAGAGGCCAC TCTTGAGTGC CAGCGAGTAG AGTTTTCTCC TCCGAGCCGC
 541 TCCGACACCG GGACTGAAAA TGAGACATAT TATCTGCCAC GGAGGTGTTA TTACCGAAGA
 601 AATGGCCGCC AGTCTTTTGG ACCAGCTGAT CGAAGAGGTA CTGGCTGATA ATCTTCCACC
 661 TCCTAGCCAT TTTGAACCAC CTACCCTTCA CGAACTGTAT GATTTAGACG TGACGGCCCC
 721 CGAAGATCCC AACGAGGAGG CGGTTTCGCA GATTTTTCCC GAGTCTGTAA TGTTGGCGGT
 781 GCAGGAAGGG ATTGACTTAT TCACTTTTCC GCCGGCGCCC GGTTCTCCGG AGCCGCCTCA
 841 CCTTTCCCGG CAGCCCGAGC AGCCGGAGCA GAGAGCCTTG GGTCCGGTTT CTATGCCAAA
 901 CCTTGTGCCG GAGGTGATCG ATCTTACCTG CCACGAGGCT GGCTTTCCAC CCAGTGACGA
 961 CGAGGATGAA GAGGGTGAGG AGTTTGTGTT AGATTATGTG GAGCACCCCG GCACGGTTG
1021 CAGGTCTTGT CATTATCACC GGAGGAATAC GGGGGACCCA GATATTATGT GTTCGCTTTG
1081 CTATATGAGG ACCTGTGGCA TGTTTGTCTA CAGTAAGTGA AAAATTATGG GCAGTGGGTG
1141 ATAGAGTGGT GGGTTTGGTG TGGTAATTTT TTTTTTAATT TTTACAGTTT TGTGGTTTAA
1201 AGAATTTTGT ATTGTGATTT TTTAAAAGGT CCTGTGTCTG AACCTGAGCC TGAGCCCGAG
1261 CCAGAACCGG AGCCTGCAAG ACCTACCCGG CGTCCTAAAT TGGTGCCTGC TATCCTGAGA
1321 CGCCCGACAT CACCTGTGTC TAGAGAATGC AATAGTAGTA CGGATAGCTG TGACTCCGGT
1381 CCTTCTAACA CACCTCCTGA GATACACCCG GTGGTCCCGC TGTGCCCCAT TAAACCAGTT
1441 GCCGTGAGAG TTGGTGGGCG TCGCCAGGCT GTGGAATGTA TCGAGGACTT GCTTAACGAG
1501 TCTGGGCAAC CTTTGGACTT GAGCTGTAAA CGCCCCAGGC CATAAGGTGT AAACCTGTGA
1561 TTGCGTGTGT GGTTAACGCC TTTGTTTGCT GAATGAGTTG ATGTAAGTTT AATAAAGGGT
1621 GAGATAATGT TTAACTTGCA TGGCGTGTTA AATGGGGCGG GGCTTAAAGG GTATATAATG
1681 CGCCGTGGGC TAATCTTGGT TACATCTGAC CTCATGGAGG CTTGGGAGTG TTTGGAAGAT
1741 TTTTCTGCTG TGCGTAACTT GCTGGAACAG AGCTCTAACA GTACCTCTTG GTTTTGGAGG
1801 TTTCTGTGGG GCTCCTCCCA GGCAAAGTTA GTCTGCAGAA TTAAGGAGGA TTACAAGTGG
1861 GAATTTGAAG AGCTTTTGAA ATCCTGTGGT GAGCTGTTTG ATTCTTTGAA TCTGGGTCAC
1921 CAGGCGCTTT TCCAAGAGAA GGTCATCAAG ACTTTGGATT TTTCCACACC GGGGCGCGCT
1981 GCGGCTGCTG TTGCTTTTTT GAGTTTTATA AAGGATAAAT GGAGCGAAGA AACCCATCTG
2041 AGCGGGGGGT ACCTGCTGGA TTTTCTGGCC ATGCATCTGT GGAGAGCGGT GGTGAGACAC
2101 AAGAATCGCC TGCTACTGTT GTCTTCCGTC CGCCCGGCAA TAATACCGAC GGAGGAGCAA
2161 CAGCAGGAGG AAGCCAGGCG GCGGCGGCGG CAGGAGCAGA GCCCATGGAA CCCGAGAGCC
2221 GGCCTGGACC CTCGGGAATG AATGTTGTAC AGGTGGCTGA ACTGTTTCCA GAACTGAGAC
2281 GCATTTTAAC CATTAACGAG GATGGGCAGG GGCTAAAGGG GGTAAAGAAG GAGCGGGGGG
2341 CTTCTGAGGC TACAGAGGAG GCTAGGAATC TAACTTTTAG CTTAATGACC AGACACCGTC
2401 CTGAGTGTGT TACTTTTCAG CAGATTAAGG ATAATTGCGC TAATGAGCTT GATCTGCTGG
2461 CGCAGAAGTA TTCCATAGAG CAGCTGACCA CTTACTGGCT GCAGCCAGGG GATGATTTTG
2521 AGGAGGCTAT TAGGGTATAT GCAAAGGTGG CACTTAGGCC AGATTGCAAG TACAAGATTA
2581 GCAAACTTGT AAATATCAGG AATTGTTGCT ACATTTCTGG GAACGGGGCC GAGGTGGAGA
2641 TAGATACGGA GGATAGGGTG GCCTTTAGAT GTAGCATGAT AAATATGTGG CCGGGGGTGC
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FIG.11A-1

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2701 TTGGCATGGA CGGGGTGGTT ATTATGAATG TGAGGTTTAC TGGTCCCAAT TTTAGCGGTA
2761 CGGTTTTCCT GGCCAATACC AATCTTATCC TACACGGTGT AAGCTTCTAT GGGTTTAACA
2821 ATACCTGTGT GGAAGCCTGG ACCGATGTAA GGGTTCGGGG CTGTGCCTTT TACTGCTGCT
2881 GGAAGGGGGT GGTGTGTCGC CCCAAAAGCA GGGCTTCAAT TAAGAAATGC CTGTTTGAAA
2941 GGTGTACCTT GGGTATCCTG TCTGAGGGTA ACTCCAGGGT GCGCCACAAT GTGGCCTCCG
3001 ACTGTGGTTG CTTTATGCTA GTGAAAAGCG TGGCTGTGAT TAAGCATAAC ATGGTGTGTG
3061 GCAACTGCGA GGACAGGGCC TCTCAGATGC TGACCTGCTC GGACGGCAAC TGTCACTTGC
3121 TGAAGACCAT TCACGTAGCC AGCCACTCTC GCAAGGCCTG GCCAGTGTTT GAGCACAACA
3181 TACTGACCCG CTGTTCCTTG CATTTGGGTA ACAGGAGGGG GGTGTTCCTA CCTTACCAAT
3241 GCAATTTGAG TCACACTAAG ATATTGCTTG AGCCCGAGAG CATGTCCAAG GTGAACCTGA
3301 ACGGGGTGTT TGACATGACC ATGAAGATCT GGAAGGTGCT GAGGTACGAT GAGACCCGCA
3361 CCAGGTGCAG ACCCTGCGAG TGTGGCGGTA AACATATTAG GAACCAGCCT GTGATGCTGG
3421 ATGTGACCGA GGAGCTGAGG CCCGATCACT TGGTGCTGGC CTGCACCCGC GCTGAGTTTG
3481 GCTCTAGCGA TGAAGATACA GATTGAGGTA CTGAAATGTG TGGGCGTGGC TTAAGGGTGG
3541 GAAAGAATAT ATAAGGTGGG GGTCTCATGT AGTTTTGTAT CTGTTTTGCA GCAGCCGCCG
3601 CCATGAGCGC CAACTCGTTT GATGGAAGCA TTGTGAGCTC ATATTTGACA ACGCGCATGC
3661 CCCCATGGGC CGGGGTGCGT CAGAATGTGA TGGGCTCCAG CATTGATGGT CGCCCCGTCC
3721 TGCCCGCAAA CTCTACTACC TTGACCTACG AGACCGTGTC TGGAACGCCG TTGGAGACTG
3781 CAGCCTCCGC CGCCGCTTCA GCCGCTGCAG CCACCGCCCG CGGGATTGTG ACTGACTTTG
3841 CTTTCCTGAG CCCGCTTGCA AGCAGTGCAG CTTCCCGTTC ATCCGCCCGC GATGACAAGT
3901 TGACGGCTCT TTTGGCACAA TTGGATTCTT TGACCCGGGA ACTTAATGTC GTTTCTCAGC
3961 AGCTGTTGGA TCTGCGCCAG CAGGTTTCTG CCCTGAAGGC TTCCTCCCCT CCCAATGCGG
4021 TTTAAAACAT AAATAAAAAC CAGACTCTGT TTGGATTTGG ATCAAGCAAG TGTCTTGCTG
4081 TCTTTATTTA GGGGTTTTGC GCGCGCGGTA GGCCCGGGAC CAGCGGTCTC GGTCGTTGAG
4141 GGTCCTGTGT ATTTTTTCCA GGACGTGGTA AAGGTGACTC TGGATGTTCA GATACATGGG
4201 CATAAGCCCG TCTCTGGGGT GGAGGTAGCA CCACTGCAGA GCTTCATGCT GCGGGGTGGT
4261 GTTGTAGATG ATCCAGTCGT AGCAGGAGCG CTGGGCGTGG TGCCTAAAAA TGTCTTTCAG
4321 TAGCAAGCTG ATTGCCAGGG GCAGGCCCTT GGTGTAAGTG TTTACAAAGC GGTTAAGCTG
4381 GGATGGGTGC ATACGTGGGG ATATGAGATG CATCTTGGAC TGTATTTTTA GGTTGGCTAT
4441 GTTCCCAGCC ATATCCCTCC GGGGATTCAT GTTGTGCAGA ACCACCAGCA CAGTGTATCC
4501 GGTGCACTTG GGAAATTTGT CATGTAGCTT AGAAGGAAAT GCGTGGAAGA ACTTGGAGAC
4561 GCCCTTGTGA CCTCCAAGAT TTTCCATGCA TTCGTCCATA ATGATGGCAA TGGGCCCACG
4621 GGCGGCGGCC TGGGCGAAGA TATTTCTGGG ATCACTAACG TCATAGTTGT GTTCCAGGAT
4681 GAGATCGTCA TAGGCCATTT TTACAAAGCG CGGGCGGAGG GTGCCAGACT GCGGTATAAT
4741 GGTTCCATCC GGCCCAGGGG CGTAGTTACC CTCACAGATT TGCATTTCCC ACGCTTTGAG
4801 TTCAGATGGG GGGATCATGT CTACCTGCGG GGCGATGAAG AAAACCGTTT CCGGGGTAGG
4861 GGAGATCAGC TGGGAAGAAA GCAGGTTCCT AAGCAGCTGC GACTTACCGC AGCCGGTGGG
4921 CCCGTAAATC ACACCTATTA CCGGCTGCAA CTGGTAGTTA AGAGAGCTGC AGCTGCCGTC
4981 ATCCCTGAGC AGGGGGGGCCA CTTCGTTAAG CATGTCCCTG ACTTGCATGT TTTCCCTGAC
5041 CAAATCCGCC AGAAGGCGCT CGCCGCCCAG CGATAGCAGT TCTTGCAAGG AAGCAAAGTT
5101 TTTCAACGGT TTGAGGCCGT CCGCCGTAGG CATGCTTTTG AGCGTTTGAC CAAGCAGTTC
5161 CAGGCGGTCC CACAGCTCGG TCACGTGCTC TACGGCATCT CGATCCAGCA TATCTCCTCG
5221 TTTCGCGGGT TGGGGCGGCT TTCGCTGTAC GGCAGTAGTC GGTGCTCGTC CAGACGGGCC
5281 AGGGTCATGT CTTTCCACGG GCGCAGGGTC CTCGTCAGCG·TAGTCTGGGT CACGGTGAAG
5341 GGGTGCGCTC CGGGTTGCGC GCTGGCCAGG GTGCGCTTGA GGCTGGTCCT GCTGGTGCTG
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FIG.11A-2

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5401 AAGCGCTGCC GGTCTTCGCC CTGCGCGTCG GCCAGGTAGC ATTTGACCAT GGTGTCATAG
5461 TCCAGCCCCT CCGCGGCGTG GCCCTTGGCG CGCAGCTTGC CCTTGGAGGA GGCGCCGCAC
5521 GAGGGGCAGT GCAGACTTTT AAGGGCGTAG AGCTTGGGCG CGAGAAATAC CGATTCCGGG
5581 GAGTAGGCAT CCGCGCCGCA GGCCCCGCAG ACGGTCTCGC ATTCCACGAG CCAGGTGAGC
5641 TCTGGCCGTT CGGGGTCAAA AACCAGGTTT CCCCCATGCT TTTTGATGCG TTTCTTACCT
5701 CTGGTTTCCA TGAGCCGGTG TCCACGCTCG GTGACGAAAA GGCTGTCCGT GTCCCCGTAT
5761 ACAGACTTGA GAGGCCTGTC CTCGAGCGGT GTTCCGCGGT CCTCCTCGTA TAGAAACTCG
5821 GACCACTCTG AGACGAAGGC TCGCGTCCAG GCCAGCACGA AGGAGGCTAA GTGGGAGGGG
5881 TAGCGGTCGT TGTCCACTAG GGGGTCCACT CGCTCCAGGG TGTGAAGACA CATGTCGCCC
5941 TCTTCGGCAT CAAGGAAGGT GATTGGTTTA TAGGTGTAGG CCACGTGACC GGGTGTTCCT
6001 GAAGGGGGGC TATAAAAGGG GGTGGGGGCG CGTTCGTCCT CACTCTCTTC CGCATCGCTG
6061 TCTGCGAGGG CCAGCTGTTG GGGTGAGTAC TCCCTCTCAA AAGCGGGCAT GACTTCTGCG
6121 CTAAGATTGT CAGTTTCCAA AAACGAGGAG GATTTGATAT TCACCTGGCC CGCGGTGATG
6181 CCTTTGAGGG TGGCCGCGTC CATCTGGTCA GAAAAGACAA TCTTTTTGTT GTCAAGCTTG
6241 GTGGCAAACG ACCCGTAGAG GGCGTTGGAC AGCAACTTGG CGATGGAGCG CAGGGTTTGG
6301 TTTTTGTCGC GATCGGCGCG CTCCTTGGCC GCGATGTTTA GCTGCACGTA TTCGCGCGCA
6361 ACGCACCGCC ATTCGGGAAA GACGGTGGTG CGCTCGTCGG GCACTAGGTG CACGCGCCAA
6421 CCGCGGTTGT GCAGGGTGAC AAGGTCAACG CTGGTGGCTA CCTCTCCGCG TAGGCGCTCG
6481 TTGGTCCAGC AGAGGCGGCC GCCCTTGCGC GAGCAGAATG GCGGTAGTGG GTCTAGCTGC
6541 GTCTCGTCCG GGGGGTCTGC GTCCACGGTA AAGACCCCGG GCAGCAGGCG CGCGTCGAAG
6601 TAGTCTATCT TGCATCCTTG CAAGTCTAGC GCCTGCTGCC ATGCGCGGGC GGCAAGCGCG
6661 CGCTCGTATG GGTTGAGTGG GGGACCCCAT GGCATGGGGT GGGTGAGCGC GGAGGCGTAC
6721 ATGCCGCAAA TGTCGTAAAC GTAGAGGGGC TCTCTGAGTA TTCCAAGATA TGTAGGGTAG
6781 CATCTTCCAC CGCGGATGCT GGCGCGCACG TAATCGTATA GTTCGTGCGA GGGAGCGAGG
6841 AGGTCGGGAC CGAGGTTGCT ACGGGCGGGC TGCTCTGCTC GGAAGACTAT CTGCCTGAAG
6901 ATGGCATGTG AGTTGGATGA TATGGTTGGA CGCTGGAAGA CGTTGAAGCT GGCGTCTGTG
6961 AGACCTACCG CGTCACGCAC GAAGGAGGCG TAGGAGTCGC GCAGCTTGTT GACCAGCTCG
7021 GCGGTGACCT GCACGTCTAG GGCGCAGTAG TCCAGGGTTT CCTTGATGAT GTCATACTTA
7081 TCCTGTCCCT TTTTTTTCCA CAGCTCGCGG TTGAGGACAA ACTCTTCGCG GTCTTTCCAG
7141 TACTCTTGGA TCGGAAACCC GTCGGCCTCC GAACGGTAAG AGCCTAGCAT GTAGAACTGG
7201 TTGACGGCCT GGTAGGCGCA GCATCCCTTT TCTACGGGTA GCGCGTATGC CTGCGCGGCC
7261 TTCCGGAGCG AGGTGTGGGT GAGCGCAAAG GTGTCCCTAA CCATGACTTT GAGGTACTGG
7321 TATTTGAAGT CAGTGTCGTC GCATCCGCCC TGCTCCCAGA GCAAAAAGTC CGTGCGCTTT
7381 TTGGAACGCG GGTTTGGCAG GGCGAAGGTG ACATCGTTGA AGAGTATCTT TCCCGCGCGA
7441 GGCATAAAGT TGCGTGTGAT GCGGAAGGGT CCCGGCACCT CGGAACGGTT GTTAATTACC
7501 TGGGCGGCGA GCACGATCTC GTCAAAGCCG TTGATGTTGT GGCCCACAAT GTAAAGTTCC
7561 AAGAAGCGCG GGATGCCCTT GATGGAAGGC AATTTTTTAA GTTCCTCGTA GGTGAGCTCT
7621 TCAGGGGAGC TGAGCCCGTG CTCTGAAAGG GCCCAGTCTG CAAGATGAGG GTTGGAAGCG
7681 ACGAATGAGC TCCACAGGTC ACGGGCCATT AGCATTTGCA GGTGGTCGCG AAAGGTCCTA
7741 AACTGGCGAC CTATGGCCAT TTTTTCTGGG GTGATGCAGT AGAAGGTAAG CGGGTCTTGT
7801 TCCCAGCGGT CCCATCCAAG GTCCGCGGCT AGGTCTCGCG CGGCGGTCAC TAGAGGCTCA
7861 TCTCCGCCGA ACTTCATGAC CAGCATGAAG GGCACGAGCT GCTTCCCAAA GGCCCCCATC
7921 CAAGTATAGG TCTCTACATC GTAGGTGACA AAGAGACGCT CGGTGCGAGG ATGCGAGCCG
7981 ATCGGGAAGA ACTGGATCTC CCGCCACCAG TTGGAGGAGT GGCTGTTGAT GTGGTGAAAG
8041 TAGAAGTCCC TGCGACGGGC CGAACACTCG TGCTGGCTTT TGTAAAAACG TGCGCAGTAC
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FIG.11A-3

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 8101 TGGCAGCGGT GCACGGGCTG TACATCCTGC ACGAGGTTGA CCTGACGACC GCGCACAAGG
 8161 AAGCAGAGTG GGAATTTGAG CCCCTCGCCT GGCGGGTTTG GCTGGTGGTC TTCTACTTCG
 8221 GCTGCTTGTC CTTGACCGTC TGGCTGCTCG AGGGGAGTTA CGGTGGATCG GACCACCACG
 8281 CCGCGCGAGC CCAAAGTCCA GATGTCCGCG CGCGGCGGTC GGAGCTTGAT GACAACATCG
 8341 CGCAGATGGG AGCTGTCCAT GGTCTGGAGC TCCCGCGGCG TCAGGTCAGG CGGGAGCTCC
 8401 TGCAGGTTTA CCTCGCATAG CCGGGTCAGG GCGCGGGCTA GGTCCAGGTG ATACCTGATT
 8461 TCCAGGGGCT GGTTGGTGGC GGCGTCGATG GCTTGCAAGA GGCCGCATCC CCGCGGCGCG
 8521 ACTACGGTAC CGCGCGGCGG GCGGTGGGCC GCGGGGGTGT CCTTGGATGA TGCATCTAAA
 8581 AGCGGTGACG CGGGCGGGCC CCCGGAGGTA GGGGGGGGCTC GGGACCCGCC GGGAGAGGGG
 8641 GCAGGGGCAC GTCGGCGCCG CGCGCGGGCA GGAGCTGGTG CTGCGCGCGG AGGTTGCTGG
 8701 CGAACGCGAC GACGCGGCGG TTGATCTCCT GAATCTGGCG CCTCTGCGTG AAGACGACGG
 8761 GCCCGGTGAG CTTGAACCTG AAAGAGAGTT CGACAGAATC AATTTCGGTG TCGTTGACGG
 8821 CGGCCTGGCG CAAAATCTCC TGCACGTCTC CTGAGTTGTC TTGATAGGCG ATCTCGGCCA
 8881 TGAACTGCTC GATCTCTTCC TCCTGGAGAT CTCCGCGTCC GGCTCGCTCC ACGGTGGCGG
 8941 CGAGGTCGTT GGAGATGCGG GCCATGAGCT GCGAGAAGGC GTTGAGGCCT CCCTCGTTCC
 9001 AGACGCGGCT GTAGACCACG CCCCCTTCGG CATCGCGGGC GCGCATGACC ACCTGCGCGA
 9061 GATTGAGCTC CACGTGCCGG GCGAAGACGG CGTAGTTTCG CAGGCGCTGA AAGAGGTAGT
 9121 TGAGGGTGGT GGCGGTGTGT CTGCCACGA AGAAGTACAT AACCCAGCGC CGCAACGTGG
 9181 ATTCGTTGAT ATCCCCCAAG GCCTCAAGGC GCTCCATGGC CTCGTAGAAG TCCACGGCGA
 9241 AGTTGAAAAA CTGGGAGTTG CGCGCCGACA CGGTTAACTC CTCCTCCAGA AGACGGATGA
 9301 GCTCGGCGAC AGTGTCGCGC ACCTCGCGCT CAAAGGCTAC AGGGGCCTCT TCTTCTTCTT
 9361 CAATCTCCTC TTCCATAAGG GCCTCCCCTT CTTCTTCTTC TGGCGGCGGT.GGGGGAGGGG
 9421 GGACACGGCG GCGACGACGG CGCACCGGGA GGCGGTCGAC AAAGCGCTCG ATCATCTCCC
 9481 CGCGGCGACG GCGCATGGTC TCGGTGACGG CGCGGCCGTT CTCGCGGGGG CGCAGTTGGA
 9541 AGACGCCGCC CGTCATGTCC CGGTTATGGG TTGGCGGGGG GCTGCCGTGC GGCAGGGATA
 9601 CGGCGCTAAC GATGCATCTC AACAATTGTT GTGTAGGTAC TCCGCCACCG AGGGACCTGA
 9661 GCGAGTCCGC ATCGACCGGA TCGGAAAACC TCTCGAGAAA GGCGTCTAAC CAGTCACAGT
 9721 CGCAAGGTAG GCTGAGCACC GTGGCGGGCG GCAGCGGGCG GCGGTCGGGG TTGTTTCTGG
 9781 CGGAGGTGCT GCTGATGATG TAATTAAAGT AGGCGGTCTT GAGACGGCGG ATGGTCGACA
 9841 GAAGCACCAT GTCCTTGGGT CCGGCCTGCT GAATGCGCAG GCGGTCGGCC ATGCCCCAGG
 9901 CTTCGTTTTG ACATCGGCGC AGGTCTTTGT AGTAGTCTTG CATGAGCCTT TCTACCGGCA
 9961 CTTCTTCTTC TCCTTCCTCT TGTCCTGCAT CTCTTGCATC TATCGCTGCG GCGGCGGCGG
10021 AGTTTGGCCG TAGGTGGCGC CCTCTTCCTC CCATGCGTGT GACCCCGAAG CCCCTCATCG
10081 GCTGAAGCAG GGCCAGGTCG GCGACAACGC GCTCGGCTAA TATGGCCTGC TGCACCTGCG
10141 TGAGGGTAGA CTGGAAGTCG TCCATGTCCA CAAAGCGGTG GTATGCGCCC GTGTTGATGG
10201 TGTAAGTGCA GTTGGCCATA ACGGACCAGT TAACGGTCTG GTGACCCGGC TGCGAGAGCT
10261 CGGTGTACCT GAGACGCGAG TAAGCCCTTG AGTCAAAGAC GTAGTCGTTG CAAGTCCGCA
10321 CCAGGTACTG GTATCCCACC AAAAAGTGCG GCGGCGGCTG GCGGTAGAGG GGCCAGCGTA
10381 GGGTGGCCGG GGCTCCGGGG GCGAGGTCTT CCAACATAAG GCGATGATAT CCGTAGATGT
10441 ACCTGGACAT CCAGGTGATG CCGGCGGCGG TGGTGGAGGC GCGCGGAAAG TCACGGACGC
10501 GGTTCCAGAT GTTGCGCAGC GGCAAAAAGT GCTCCATGGT CGGGACGCTC TGGCCGGTCA
10561 GGCGCGCGCA GTCGTTGACG CTCTAGACCG TGCAAAAGGA GAGCCTGTAA GCGGGCACTC
10621 TTCCGTGGTC TGGTGGATAA ATTCGCAAGG GTATCATGGC GGACGACCGG GGTTCGAACC
10681 CCGGATCCGG CCGTCCGCCG TGATCCATGC GGTTACCGCC CGCGTGTCGA ACCCAGGTGT
10741 GCGACGTCAG ACAACGGGGG AGCGCTCCTT TTGGCTTCCT TCCAGGCGCG GCGGATGCTG
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FIG.11A-4

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10801 CGCTAGCTTT TTTGGCCACT GGCCGCGCGC GGCGTAAGCG GTTAGGCTGG AAAGCGAAAG
10861 CATTAAGTGG CTCGCTCCCT GTAGCCGGAG GGTTATTTTC CAAGGGTTGA GTCGCGGGAC
10921 CCCCGGTTCG AGTCTCGGGC CGGCCGGACT GCGGCGAACG GGGGTTTGCC TCCCCGTCAT
10981 GCAAGACCCC GCTTGCAAAT TCCTCCGGAA ACAGGGACGA GCCCCTTTTT TGCTTTTCCC
11041 AGATGCATCC GGTGCTGCGG CAGATGCGCC CCCCTCCTCA GCAGCGGCAA GAGCAAGAGC
11101 AGCGGCAGAC ATGCAGGGCA CCCTCCCCTT CTCCTACCGC GTCAGGAGGG GCAACATCCG
11161 CGGCTGACGC GGCGGCAGAT GGTGATTACG AACCCCCGCG GCGCCGGACC CGGCACTACT
11221 TGGACTTGGA GGAGGGCGAG GGCCTGGCGC GGCTAGGAGC GCCCTCTCCT GAGCGACACC
11281 CAAGGGTGCA GCTGAAGCGT GACACGCGCG AGGCGTACGT GCCGCGGCAG AACCTGTTTC
11341 GCGACCGCGA GGGAGAGGAG CCCGAGGAGA TGCGGGATCG AAAGTTCCAT GCAGGGCGCG
11401 AGTTGCGGCA TGGCCTGAAC CGCGAGCGGT TGCTGCGCGA GGAGGACTTT GAGCCCGACG
11461 CGCGGACCGG GATTAGTCCC GCGCGCGCAC ACGTGGCGGC CGCCGACCTG GTAACCGCGT
11521 ACGAGCAGAC GGTGAACCAG GAGATTAACT TTCAAAAAAG CTTTAACAAC CACGTGCGCA
11581 CGCTTGTGGC GCGCGAGGAG GTGGCTATAG GACTGATGCA TCTGTGGGAC TTTGTAAGCG
11641 CGCTGGAGCA AAACCCAAAT AGCAAGCCGC TCATGGCGCA GCTGTTCCTT ATAGTGCAGC
11701 ACAGCAGGGA CAACGAGGCA TTCAGGGATG CGCTGCTAAA CATAGTAGAG CCCGAGGGCC
11761 GCTGGCTGCT CGATTTGATA AACATTCTGC AGAGCATAGT GGTGCAGGAG CGCAGCTTGA
11821 GCCTGGCTGA CAAGGTGGCC GCCATTAACT ATTCCATGCT CAGTCTGGGC AAGTTTTACG
11881 CCCGCAAGAT ATACCATACC CCTTACGTTC CCATAGACAA GGAGGTAAAG ATCGAGGGGT
11941 TCTACATGCG CATGGCGCTG AAGGTGCTTA CCTTGAGCGA CGACCTGGGC GTTTATCGCA
12001 ACGAGCGCAT CCACAAGGCC GTGAGCGTGA GCCGGCGGCG CGAGCTCAGC GACCGCGAGC
12061 TGATGCACAG CCTGCAAAGG GCCCTGGCTG GCACGGGCAG CGGCGATAGA GAGGCCGAGT
12121 CCTACTTTGA CGCGGGCGCT GACCTGCGCT GGGCCCCAAG CCGACGCGCC CTGGAGGCAG
12181 CTGGGGCCGG ACCTGGGCTG GCGGTGGCAC CCGCGCGCGC TGGCAACGTC GGCGGCGTGG
12241 AGGAATATGA CGAGGACGAT GAGTACGAGC CAGAGGACGG CGAGTACTAA GCGGTGATGT
12301 TTCTGATCAG ATGATGCAAG ACGCAACGGA CCCGGCGGTG CGGGCGGCGC TGCAGAGCCA
12361 GCCGTCCGGC CTTAACTCCA CGGACGACTG GCGCCAGGTC ATGGACCGCA TCATGTCGCT
12421 GACTGCGCGC AACCCTGACG CGTTCCGGCA GCAGCCGCAG GCCAACCGGC TCTCCGCAAT
12481 TCTGGAAGCG GTGGTCCCGG CGCGCGCAAA CCCCACGCAC GAGAAGGTGC TGGCGATCGT
12541 AAACGCGCTG GCCGAAAACA GGGCCATCCG GCCCGATGAG GCCGGCCTGG TCTACGACGC
12601 GCTGCTTCAG CGCGTGGCTC GTTACAACAG CAGCAACGTG CAGACCAACC TGGACCGGCT
12661 GGTGGGGGAT GTGCGCGAGG CCGTGGCGCA GCGTGAGCGC GCGCAGCAGC AGGGCAACCT
12721 GGGCTCCATG GTTGCACTAA ACGCCTTCCT GAGTACACAG CCCGCCAACG TGCCGCGGGG
12781 ACAGGAGGAC TACACCAACT TTGTGAGCGC ACTGCGGCTA ATGGTGACTG AGACACCGCA
12841 AAGTGAGGTG TATCAGTCCG GGCCAGACTA TTTTTTTCCAG ACCAGTAGAC AAGGCCTGCA
12901 GACCGTAAAC CTGAGCCAGG CTTTCAAGAA CTTGCAGGGG CTGTGGGGGG TGCGGGCTCC
12961 CACAGGCGAC CGCGCGACCG TGTCTAGCTT GCTGACGCCC AACTCGCGCC TGTTGCTGCT
13021 GCTAATAGCG CCCTTCACGG ACAGTGGCAG CGTGTCCCGG GACACATACC TAGGTCACTT
13081 GCTGACACTG TACCGCGAGG CCATAGGTCA GGCGCATGTG GACGAGCATA CTTTCCAGGA
13141 GATTACAAGT GTTAGCCGCG CGCTGGGGCA GGAGGACACG GGCAGCCTGG AGGCAACCCT
13201 GAACTACCTG CTGACCAACC GGCGGCAAAA AATCCCCTCG TTGCACAGTT TAAACAGCGA
13261 GGAGGAGCGC ATTTTGCGCT ATGTGCAGCA GAGCGTGAGC CTTAACCTGA TGCGCGACGG
13321 GGTAACGCCC AGCGTGGCGC TGGACATGAC CGCGCGCAAC ATGGAACCGG GCATGTATGC
13381 CTCAAACCGG CCGTTTATCA ATCGCCTAAT GGACTACTTG CATCGCGCGG CCGCCGTGAA
13441 CCCCGAGTAT TTCACCAATG CCATCTTGAA CCCGCACTGG CTACCGCCCC CTGGTTTCTA
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FIG.11A-5

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13501 CACCGGGGGA TTCGAGGTGC CCGAGGGTAA CGATGGATTC CTCTGGGACG ACATAGACGA
13561 CAGCGTGTTT TCCCCGCAAC CGCAGACCCT GCTAGAGTTG CAACAACGCG AGCAGGCAGA
13621 GGCGGCGCTG CGAAAGGAAA GCTTCCGCAG GCCAAGCAGC TTGTCCGATC TAGGCGCTGC
13681 GGCCCCGCGG TCAGATGCTA GTAGCCCATT TCCAAGCTTG ATAGGGTCTC TTACCAGCAC
13741 TCGCACCACC CGCCCGCGCC TGCTGGGCGA GGAGGAGTAC CTAAACAACT CGCTGCTGCA
13801 GCCGCAGCGC GAAAAGAACC TGCCTCCGGC GTTTCCCAAC AACGGGATAG AGAGCCTAGT
13861 GGACAAGATG AGTAGATGGA AGACGTATGC GCAGGAGCAC AGGGATGTGC CCGGCCCGCG
13921 CCCGCCCACC CGTCGTCAAA GGCACGACCG TCAGCGGGGT CTGGTGTGGG AGGACGATGA
13981 CTCGGCAGAC GACAGCAGCG TCTTGGATTT GGGAGGGAGT GGCAACCCGT TTGCACACCT
14041 TCGCCCCAGG CTGGGGAGAA TGTTTTAAAA AAAGCATGAT GCAAAATAAA AAACTCACCA
14101 AGGCCATGGC ACCGAGCGTT GGTTTTCTTG TATTCCCCTT AGTATGCGGC GCGCGGCGAT
14161 GTATGAGGAA GGTCCTCCTC CCTCCTACGA GAGCGTGGTG AGCGCGGCGC CAGTGGCGGC
14221 GGCGCTGGGT TCACCCTTCG ATGCTCCCCT GGACCCGCCG TTCGTGCCTC CGCGGTACCT
14281 GCGGCCTACC GGGGGGAGAA ACAGCATCCG TTACTCTGAG TTGGCACCCC TATTCGACAC
14341 CACCCGTGTG TACCTTGTGG ACAACAAGTC AACGGATGTG GCATCCCTGA ACTACCAGAA
14401 CGACCACAGC AACTTTCTAA CCACGGTCAT TCAAAACAAT GACTACAGCC CGGGGGGAGGC
14461 AAGCACACAG ACCATCAATC TTGACGACCG GTCGCACTGG GGCGGCGACC TGAAAACCAT
14521 CCTGCATACC AACATGCCAA ATGTGAACGA GTTCATGTTT ACCAATAAGT TTAAGGCGCG
14581 GGTGATGGTG TCGCGCTCGC TTACTAAGGA CAAACAGGTG GAGCTGAAAT ACGAGTGGGT
14641 GGAGTTCACG CTGCCCGAGG GCAACTACTC CGAGACCATG ACCATAGACC TTATGAACAA
14701 CGCGATCGTG GAGCACTACT TGAAAGTGGG CAGGCAGAAC GGGGTTCTGG AAAGCGACAT
14761 CGGGGTAAAG TTTGACACCC GCAACTTCAG ACTGGGGTTT GACCCAGTCA CTGGTCTTGT
14821 CATGCCTGGG GTATATACAA ACGAAGCCTT CCATCCAGAC ATCATTTTGC TGCCAGGATG
14881 CGGGGTGGAC TTCACCCACA GCCGCCTGAG CAACTTGTTG GGCATCCGCA AGCGGCAACC
14941 CTTCCAGGAG GGCTTTAGGA TCACCTACGA TGACCTGGAG GGTGGTAACA TTCCCGCACT
15001 GTTGGATGTG GACGCCTACC AGGCAAGCTT GAAAGATGAC ACCGAACAGG GCGGGGGTGG
15061 CGCAGGCGGC GGCAACAACA GTGGCAGCGG CGCGGAAGAG AACTCCAACG CGGCAGCTGC
15121 GGCAATGCAG CCGGTGGAGG ACATGAACGA TCATGCCATT CGCGGCGACA CCTTTGCCAC
15181 ACGGGCGGAG GAGAAGCGCG CTGAGGCCGA GGCAGCGGCC GAAGCTGCCG CCCCCGCTGC
15241 GGAGGCTGCA CAACCCGAGG TCGAGAAGCC TCAGAAGAAA CCGGTGATTA AACCCCTGAC
15301 AGAGGACAGC AAGAAACGCA GTTACAACCT AATAAGCAAT GACAGCACCT TCACCCAGTA
15361 CCGCAGCTGG TACCTTGCAT ACAACTACGG CGACCCTCAG GCCGGGATCC GCTCATGGAC
15421 CCTGCTTTGC ACTCCTGACG TAACCTGCGG CTCGGAGCAG GTATACTGGT CGTTGCCCGA
15481 CATGATGCAA GACCCCGTGA CCTTCCGCTC CACGCGCCAG ATCAGCAACT TTCCGGTGGT
15541 GGGCGCCGAG CTGTTGCCCG TGCACTCCAA GAGCTTCTAC AACGACCAGG CCGTCTACTC
15601 CCAGCTCATC CGCCAGTTTA CCTCTCTGAC CCACGTGTTC AATCGCTTTC CCGAGAACCA
15661 GATTTTGGCG CGCCCGCCAG CCCCCACCAT CACCACCGTC AGTGAAAACG TTCCTGCTCT
15721 CACAGATCAC GGGACGCTAC CGCTGCGCAA CAGCATCGGA GGAGTCCAGC GAGTGACCAT
15781 TACTGACGCC AGACGCCGCA CCTGCCCCTA CGTTTACAAG GCCCTGGGCA TAGTCTCGCC
15841 GCGCGTCCTA TCGAGCCGCA CTTTTTTGAGC AAGCATGTCC ATCCTTATAT CGCCCAGCAA
15901 TAACACAGGC TGGGGCCTGC GCTTCCCAAG CAAGATGTTT GGCGGGGCCA AGAAGCGCTC
15961 CGACCAACAC CCAGTGCGCG TGCGCGGGCA CTACCGCGCG CCCTGGGGCG CGCACAAACG
16021 CGGCCGCACT GGGCGCACCA CCGTCGATGA CGCCATCGAC GCGGTGGTGG AGGAGGCGCG
16081 CAACTACACG CCCACGCCGC CGCCAGTGTC CACCGTGGAC GCGGCCATTC AGACCGTGGT
16141 GCGCGGAGCC CGGCGCTACG CTAAAATGAA GAGACGGCGG AGGCGCGTAG CACGTCGCCA
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FIG.11A-6

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16201  CCGCCGCCGA  CCCGGCACTG  CCGCCCAACG  CGCGGCGGCG  GCCCTGCTTA  ACCGCGCACG
16261  TCGCACCGGC  CGACGGGCGG  CCATGCGAGC  CGCTCGAAGG  CTGGCCGCGG  GTATTGTCAC
16321  TGTGCCCCCC  AGGTCCAGGC  GACGAGCGGC  CGCCGCAGCA  GCCGCGGCCA  TTAGTGCTAT
16381  GACTCAGGGT  CGCAGGGGCA  ACGTGTACTG  GGTGCGCGAC  TCGGTTAGCG  GCCTGCGCGT
16441  GCCCGTGCGC  ACCCGCCCCC  CGCGCAACTA  GATTGCAATA  AAAAACTACT  TAGACTCGTA
16501  CTGTTGTATG  TATCCAGCGG  CGGCGGCGCG  CATCGAAGCT  ATGTCCAAGC  GCAAAATCAA
16561  AGAAGAGATG  CTCCAGGTCA  TCGCGCCGGA  GATCTATGGC  CCCCCGAAGA  AGGAAGAGCA
16621  GGATTACAAG  CCCCGAAAGC  TAAAGCGGGT  CAAAAAGAAA  AAGAAAGATG  ATGATGATGA
16681  TGAACTTGAC  GACGAGGTGG  AACTGTTGCA  CGCGACCGCG  CCCAGGCGAC  GGGTACAGTG
16741  GAAAGGTCGA  CGCGTAAGAC  GTGTTTTGCG  ACCCGGCACC  ACCGTAGTCT  TTACGCCCGG
16801  TGAGCGCTCC  ACCCGCACCT  ACAAGCGCGT  GTATGATGAG  GTGTACGGCG  ACGAGGACCT
16861  GCTTGAGCAG  GCCAACGAGC  GCCTCGGGGA  GTTTGCCTAC  GGAAAGCGGC  ATAAGGACAT
16921  GCTGGCGTTG  CCGCTGGACG  AGGGCAACCC  AACACCTAGC  CTAAAGCCCG  TGACACTGCA
16981  GCAGGTGCTG  CCCGCGCTTG  CACCGTCCGA  AGAAAAGCGC  GGCCTAAAGC  GCGAGTCTGG
17041  TGACTTGGCA  CCCACCGTGC  AGCTGATGGT  ACCCAAGCGT  CAGCGACTGG  AAGATGTCTT
17101  GGAAAAHATG  ACCGTGGAGC  CTGGGCTGGA  GCCCGAGGTC  CGCGTGCGGC  CAATCAAGCA
17161  GGTGGCACCG  GGACTGGGCG  TGCAGACCGT  GGACGTTCAG  ATACCCACCA  CCAGTAGCAC
17221  TAGTATTGCC  ACTGCCACAG  AGGGCATGGA  GACACAAACG  TCCCCGGTTG  CCTCGGCGGT
17281  GGCAGATGCC  GCGGTGCAGG  CGGCCGCTGC  GGCCGCGTCC  AAGACCTCTA  CGGAGGTGCA
17341  AACGGACCCG  TGGATGTTTC  GTGTTTCAGC  CCCCCGGCGT  CCGCGCCGTT  CAAGGAAGTA
17401  CGGCGCCGCC  AGCGCGCTAC  TGCCCGAATA  TGCCCTACAT  CCTTCCATCG  CGCCTACCCC
17461  CGGCTATCGT  GGCTACACCT  ACCGCCCCAG  AAGACGAGCA  ACTACCCGAC  GCCGAACCAC
17521  CACTGGAACC  CGCCGCCGCC  GTCGCCGTCG  CCAGCCCGTG  CTGGCCCCGA  TTTCCGTGCG
17581  CAGGGTGGCT  CGCGAAGGAG  GCAGGACCCT  GGTGCTGCCA  ACAGCGCGCT  ACCACCCCAG
17641  CATCGTTTAA  AAGCCGGTCT  TTGTGGTTCT  TGCAGATATG  GCCCTCACCT  GCCGCCTCCG
17701  TTTCCCGGTG  CCGGGATTCC  GAGGAAGAAT  GCACCGTAGG  AGGGGCATGG  CCGGCCACGG
17761  CCTGACGGGC  GGCATGCGTC  GTGCGCACCA  CCGGCGGCGG  CGCGCGTCGC  ACCGTCGCAT
17821  GCGCGGCGGT  ATCCTGCCCC  TCCTTATTCC  ACTGATCGCC  GCGGCGATTG  GCGCCGTGCC
17881  CGGAATTGCA  TCCGTGGCCT  TGCAGGCGCA  GAGACACTGA  TTAAAAACAA  GTTACATGTG
17941  GAAAAATCAA  AATAAAAGTC  TGGACTCTCA  CGCTCGCTTG  GTCCTGTAAC  TATTTTGTAG
18001  AATGGAAGAC  ATCAACTTTG  CGTCACTGGC  CCCGCGACAC  GGCTCGCGCC  CGTTCATGGG
18061  AAACTGGCAA  GATATCGGCA  CCAGCAATAT  GAGCGGTGGC  GCCTTCAGCT  GGGGCTCGCT
18121  GTGGAGCGGC  ATTAAAAATT  TCGGTTCCGC  CGTTAAGAAC  TATGGCAGCA  AAGCCTGGAA
18181  CAGCAGCACA  GGCCAGATGC  TGAGGGACAA  GTTGAAAGAG  CAAAATTTCC  AACAAAAGGT
18241  GGTAGATGGC  CTGGCCTCTG  GCATTAGCGG  GGTGGTGGAC  CTGGCCAACC  AGGCAGTGCA
18301  AAATAAGATT  AACAGTAAGC  TTGATCCCCG  CCCTCCCGTA  GAGGAGCCTC  CACCGGCCGT
18361  GGAGACAGTG  TCTCCAGAGG  GGCGTGGCGA  AAAGCGTCCG  CGACCCGACA  GGGAAGAAAC
18421  TCTGGTGACG  CAAATAGACG  AGCCTCCCTC  GTACGAGGAG  GCACTAAAGC  AAGGCCTGCC
18481  CACCACCCGT  CCCATCGCGC  CCATGGCTAC  CGGAGTGCTG  GGCCAGCACA  CACCCGTAAC
18541  GCTGGACCTG  CCTCCCCCCG  CCGACACCCA  GCAGAAACCT  GTGCTGCCAG  GCCCGTCCGC
18601  CGTTGTTGTA  ACCCGTCCTA  GCCGCGCGTC  CCTGCGCCGC  GCCGCCAGCG  TCCGCGATC
18661  GTTGCGGCCC  GTAGCCAGTG  GCAACTGGCA  AAGCACACTG  AACAGCATCG  TGGGTTTGGG
18721  GGTGCAATCC  CTGAAGCGCC  GACGATGCTT  CTGATAGCTA  ACGTGTCGTA  TGTGTGTCAT
18781  GTATGCGTCC  ATGTCGCCGC  CAGAGGAGCT  GCTGAGCCGC  CGCGCGCCCG  CTTTCCAAGA
18841  TGGCTACCCC  TTCGATGATG  CCGCAGTGGT  CTTACATGCA  CATCTCGGGC  CAGGACGCCT
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FIG.11A-7

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18901 CGGAGTACCT GAGCCCCGGG CTGGTGCAGT TCGCCCGCGC CACCGAGACG TACTTCAGCC
18961 TGAATAACAA GTTTAGAAAC CCCACGGTGG CGCCTACGCA CGACGTGACC ACAGACCGGT
19021 CTCAGCGTTT GACGCTGCGG TTCATCCCCG TGGACCGCGA GGATACTGCG TACTCGTACA
19081 AGGCGCGGTT CACCCTAGCT GTGGGTGATA ACCGTGTGCT AGACATGGCT TCCACGTACT
19141 TTGACATCCG CGGCGTGCTG GACAGGGGCC CTACTTTTAA GCCCTACTCT GGCACTGCCT
19201 ACAACGCACT GGCCCCCAAG GGTGCCCCCA ACTCGTGCGA GTGGGAACAA AATGAAACTG
19261 CACAAGTGGA TGCTCAAGAA CTTGACGAAG AGGAGAATGA AGCCAATGAA GCTCAGGCGC
19321 GAGAACAGGA ACAAGCTAAG AAAACCCATG TATATGCCCA GGCTCCACTG TCCGGAATAA
19381 AAATAACTAA AGAAGGTCTA CAAATAGGAA CTGCCGACGC CACAGTAGCA GGTGCCGGCA
19441 AAGAAATTTT CGCAGACAAA ACTTTTCAAC CTGAACCACA AGTAGGAGAA TCTCAATGGA
19501 ACGAAGCGGA TGCCACAGCA GCTGGTGGAA GGGTTCTTAA AAAGACAACT CCCATGAAAC
19561 CCTGCTATGG CTCATACGCT AGACCCACCA ATTCCAACGG CGGACAGGGC GTTATGGTTG
19621 AACAAAATGG TAAATTGGAA AGTCAAGTCG AAATGCAATT TTTTTCCACA TCCACAAATG
19681 CCACAAATGA AGTTAACAAT ATACAACCAA CAGTTGTATT GTACAGCGAA GATGTAAACA
19741 TGGAAACTCC AGATACTCAT CTTTCTTATA AACCTAAAAT GGGGGGATAAA AATGCCAAAG
19801 TCATGCTTGG ACAACAAGCA ATGCCAAACA GACCAAATTA CATTGCTTTT AGAGACAATT
19861 TTATTGGTCT CATGTATTAC AACAGCACAG GTAACATGGG TGTCCTTGCT GGTCAGGCAT
19921 CGCAGTTGAA CGCTGTTGTA GATTTGCAAG ACAGAAACAC AGAGCTGTCC TACCAGCTTT
19981 TGCTTGATTC AATTGGCGAC AGAACAAGAT ACTTTTCAAT GTGGAATCAA GCTGTTGACA
20041 GCTATGATCC AGATGTCAGA ATTATTGAGA ACCATGGAAC TGAGGATGAG TTGCCAAATT
20101 ATTGCTTTCC TCTTGGTGGA ATTGGGATTA CTGACACTTT TCAAGCTGTT AAAACAACTG
20161 CTGCTAACGG GGACCAAGGC AATACTACCT GGCAAAAAGA TTCAACATTT GCAGAACGCA
20221 ATGAAATAGG GGTGGGAAAT AACTTTGCCA TGGAAATTAA CCTGAATGCC AACCTATGGA
20281 GAAATTTCCT TTACTCCAAT ATTGCGCTGT ACCTGCCAGA CAAGCTAAAA TACAACCCCA
20341 CCAATGTGGA AATATCTGAC AACCCCAACA CCTACGACTA CATGAACAAG CGAGTGGTGG
20401 CTCCTGGGCT TGTAGACTGC TACATTAACC TTGGGGCGCG CTGGTCTCTG GACTACATGG
20461 ACAACGTTAA TCCCTTTAAC CACCACCGCA ATGCGGGCCT GCGTTACCGC TCCATGTTGT
20521 TGGGAAACGG CCGCTACGTG CCCTTTCACA TTCAGGTGCC CCAAAAGTTT TTTGCCATTA
20581 AAAACCTCCT CCTCCTGCCA GGCTCATACA CATATGAATG GAACTTCAGG AAGGATGTTA
20641 ACATGGTTCT GCAGAGCTCT CTGGGAAACG ACCTTAGAGT TGACGGGGCT AGCATTAAGT
20701 TTGACAGCAT TTGTCTTTAC GCCACCTTCT TCCCCATGGC CCACAACACG GCCTCCACGC
20761 TGGAAGCCAT GCTCAGAAAT GACACCAACG ACCAGTCCTT TAATGACTAC CTTTCCGCCG
20821 CCAACATGCT ATATCCCATA CCCGCCAACG CCACCAACGT GCCCATCTCC ATCCCATCGC
20881 GCAACTGGGC AGCATTTCGC GGTTGGGCCT TCACACGCTT GAAGACAAAG GAAACCCCTT
20941 CCCTGGGATC AGGCTACGAC CCTTACTACA CCTACTCTGG CTCCATACCA TACCTTGACG
21001 GAACCTTCTA TCTTAATCAC ACCTTTAAGA AGGTGGCCAT TACTTTTGAC TCTTCTGTTA
21061 GCTGGCCGGG CAACGACCGC CTGCTTACTC CCAATGAGTT TGAGATTAAG CGCTCAGTTG
21121 ACGGGGAGGG CTATAACGTA GCTCAGTGCA ACATGACAAA GGACTGGTTC CTAGTGCAGA
21181 TGTTGGCCAA CTACAATATT GGCTACCAGG GCTTCTACAT TCCAGAAAGC TACAAAGACC
21241 GCATGTACTC GTTCTTCAGA AACTTCCAGC CCATGAGCCG GCAAGTGGTG GACGATACTA
21301 AATACAAAGA TTATCAGCAG GTTGGAATTA TCCACCAGCA TAACAACTCA GGCTTCGTAG
21361 GCTACCTCGC TCCCACCATG CGCGAGGGAC AAGCTTACCC CGCTAATGTT CCCTACCCAC
21421 TAATAGGCAA AACCGCGGTT GATAGTATTA CCCAGAAAAA GTTTCTTTGC GACCGCACCC
21481 TGTGGCGCAT CCCCTTCTCC AGTAACTTTA TGTCCATGGG TGCGCTCACA GACCTGGGCC
21541 AAAACCTTCT CTACGCAAAC TCCGCCCACG CGCTAGACAT GACCTTTGAG GTGGATCCCA
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FIG.11A-8

63/70

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21601 TGGACGAGCC CACCCTTCTT TATGTTTTGT TTGAAGTCTT TGACGTGGTC CGTGTGCACC
21661 AGCCGCACCG CGGCGTCATC GAGACCGTGT ACCTGCGCAC GCCCTTCTCG GCCGGCAACG
21721 CCACAACATA AAGAAGCAAG CAACATCAAC AACAGCTGCC GCCATGGGCT CCAGTGAGCA
21781 GGAACTGAAA GCCATTGTCA AAGATCTTGG TTGTGGGCCA TATTTTTTGG GCACCTATGA
21841 CAAGCGCTTC CCAGGCTTTG TTTCCCCACA CAAGCTCGCC TGCGCCATAG TTAACACGGC
21901 CGGTCGCGAG ACTGGGGGCG TACACTGGAT GGCCTTTGCC TGGAACCCGC GCTCAAAAAC
21961 ATGCTACCTC TTTGAGCCCT TTGGCTTTTC TGACCAACGT CTCAAGCAGG TTTACCAGTT
22021 TGAGTACGAG TCACTCCTGC GCCGTAGCGC CATTGCCTCT TCCCCCGACC GCTGTATAAC
22081 GCTGGAAAAG TCCACCCAAA GCGTGCAGGG GCCCAACTCG GCCGCCTGTG GCCTATTCTG
22141 CTGCATGTTT CTCCACGCCT TTGCCAACTG GCCCCAAACT CCCATGGATC ACAACCCCAC
22201 CATGAACCTT ATTACCGGGG TACCCAACTC CATGCTTAAC AGTCCCCAGG TACAGCCCAC
22261 CCTGCGCCGC AACCAGGAAC AGCTCTACAG CTTCCTGGAG CGCCACTCGC CCTACTTCCG
22321 CAGCCACAGT GCGCAAATTA GGAGCGCCAC TTCTTTTTGT CACTTGAAAA ACATGTAAAA
22381 ATAATGTACT AGGAGACACT TTCAATAAAG GCAAATGTTT TTATTTGTAC ACTCTCGGGT
22441 GATTATTTAC CCCCACCCTT GCCGTCTGCG CCGTTTAAAA ATCAAAGGGG TTCTGCCGCG
22501 CATCGCTATG CGCCACTGGC AGGGACACGT TGCGATACTG GTGTTTAGTG CTCCACTTAA
22561 ACTCAGGCAC AACCATCCGC GGCAGCTCGG TGAAGTTTTC ACTCCACAGG CTGCGCACCA
22621 TCACCAACGC GTTTAGCAGG TCGGGCGCCG ATATCTTGAA GTCGCAGTTG GGGCCTCCGC
22681 CCTGCGCGCG CGAGTTGCGA TACACAGGGT TACAGCACTG GAACACTATC AGCGCCGGGT
22741 GGTGCACGCT GGCCAGCACG CTCTTGTCGG AGATCAGATC CGCGTCCAGG TCCTCCGCGT
22801 TGCTCAGGGC GAACGGAGTC AACTTTGGTA GCTGCCTTCC CAAAAAGGGT GCATGCCCAG
22861 GCTTTGAGTT GCACTCGCAC CGTAGTGGCA TCAGAAGGTG ACCGTGCCCA GTCTGGGCGT
22921 TAGGATACAG CGCCTGCATG AAAGCCTTGA TCTGCTTAAA AGCCACCTGA GCCTTTGCGC
22981 CTTCAGAGAA GAACATGCCG CAAGACTTGC CGGAAAACTG ATTGGCCGGA CAGGCCGCGT
23041 CATGCACGCA GCACCTTGCG TCGGTGTTGG AGATCTGCAC CACATTTCGG CCCCACCGGT
23101 TCTTCACGAT CTTGGCCTTG CTAGACTGCT CCTTCAGCGC GCGCTGCCCG TTTTCGCTCG
23161 TCACATCCAT TTCAATCACG TGCTCCTTAT TTATCATAAT GCTCCCGTGT AGACACTTAA
23221 GCTCGCCTTC GATCTCAGCG CAGCGGTGCA GCCACAACGC GCAGCCCGTG GGCTCGTGGT
23281 GCTTGTAGGT TACCTCTGCA AACGACTGCA GGTACGCCTG CAGGAATCGC CCCATCATCG
23341 TCACAAAGGT CTTGTTGCTG GTGAAGGTCA GCTGCAACCC GCGGTGCTCC TCGTTTAGCC
23401 AGGTCTTGCA TACGGCCGCC AGAGCTTCCA CTTGGTCAGG CAGTAGCTTG AAGTTTGCCT
23461 TTAGATCGTT ATCCACGTGG TACTTGTCCA TCAACGCGCG CGCAGCCTCC ATGCCCTTCT
23521 CCCACGCAGA CACGATCGGC AGGCTCAGCG GGTTTATCAC CGTGCTTTCA CTTTCCGCTT
23581 CACTGGACTC TTCCTTTTCC TCTTGCATCC GCATACCCCG CGCCACTGGG TCGTCTTCAT
23641 TCAGCCGCCG CACCGTGCGC TTACCTCCCT TGCCGTGCTT GATTAGCACC GGTGGGTTGC
23701 TGAAACCCAC CATTTGTAGC GCCACATCTT CTCTTTCTTC CTCGCTGTCC ACGATCACCT
23761 CTGGGGATGG CGGGCGCTCG GGCTTGGGAG AGGGGCGCTT CTTTTTCTTT TTGGACGCAA
23821 TGGCCAAATC CGCCGTCGAG GTCGATGGCC GCGGGCTGGG TGTGCGCGGC ACCAGCGCAT
23881 CTTGTGACGA GTCTTCTTCG TCCTCGGACT CGAGACGCCG CCTCAGCCGC TTTTTTGGGG
23941 GCGCGCGGGG AGGCGGCGGC GACGGCGACG GGGACGAGAC GTCCTCCATG GTTGGTGGAC
24001 GTCGCGCCGC ACCGCGTCCG CGCTCGGGGG TGGTTTCGCG CTGCTCCTCT TCCCGACTGG
24061 CCATTTCCTT CTCCTATAGG CAGAAAAGA TCATGGAGTC AGTCGAGAAG GAGGACAGCC
24121 TAACCGCCCC CTTTGAGTTC GCCACCACCG CCTCCACCGA TGCCGCCAAC GCGCCTACCA
24181 CCTTCCCCGT CGAGGCACCC CCGCTTGAGG AGGAGGAAGT GATTATCGAG CAGGACCCAG
24241 GTTTTGTAAG CGAAGACGAC GAAGATCGCT CAGTACCAAC AGAGGATAAA AAGCAAGACC
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FIG.11A-9

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24301 AGGACGACGC AGAGGCAAAC GAGGAACAAG TCGGGCGGGG GGACCAAAGG CATGGCGACT
24361 ACCTAGATGT GGGAGACGAC GTGCTGTTGA AGCATCTGCA GCGCCAGTGC GCCATTATCT
24421 GCGACGCGTT GCAAGAGCGC AGCGATGTGC CCCTCGCCAT AGCGGATGTC AGCCTTGCCT
24481 ACGAACGCCA CCTGTTCTCA CCGCGCGTAC CCCCCAAACG CCAAGAAAAC GGCACATGCG
24541 AGCCCAACCC GCGCCTCAAC TTCTACCCCG TATTTGCCGT GCCAGAGGTG CTTGCCACCT
24601 ATCACATCTT TTTCCAAAAC TGCAAGATAC CCCTATCCTG CCGTGCCAAC CGCAGCCGAG
24661 CGGACAAGCA GCTGGCCTTG CGGCAGGGCG CTGTCATACC TGATATCGCC TCGCTCGACG
24721 AAGTGCCAAA AATCTTTGAG GGTCTTGGAC GCGACGAGAA GCGCGCGGCA AACGCTCTGC
24781 AACAAGAAAA CAGCGAAAAT GAAAGTCACT GTGGAGTGCT GGTGGAACTT GAGGGTGACA
24841 ACGCGCGCCT AGCCGTGCTG AAACGCAGCA TCGAGGTCAC CCACTTTGCC TACCCGGCAC
24901 TTAACCTACC CCCCAAGGTT ATGAGCACAG TCATGAGCGA GCTGATCGTG CGCCGTGCAC
24961 GACCCCTGGA GAGGGATGCA AACTTGCAAG AACAAACCGA GGAGGGCCTA CCCGCAGTTG
25021 GCGATGAGCA GCTGGCGCGC TGGCTTGAGA CGCGCGAGCC TGCCGACTTG GAGGAGCGAC
25081 GCAAGCTAAT GATGGCCGCA GTGCTTGTTA CCGTGGAGCT TGAGTGCATG CAGCGGTTCT
25141 TTGCTGACCC GGAGATGCAG CGCAAGCTAG AGGAAACGTT GCACTACACC TTTCGCCAGG
25201 GCTACGTGCG CCAGGCCTGC AAAATTTCCA ACGTGGAGCT CTGCAACCTG GTCTCCTACC
25261 TTGGAATTTT GCACGAAAAC CGCCTTGGGC AAAACGTGCT TCATTCCACG CTCAAGGGCG
25321 AGGCGCGCCG CGACTACGTC CGCGACTGCG TTTACTTATT TCTGTGCTAC ACCTGGCAAA
25381 CGGCCATGGG CGTGTGGCAG CAGTGCCTGG AGGAGCGCAA CCTGAAGGAG CTGCAGAAGC
25441 TGCTAAAGCA AAACTTGAAG GACCTATGGA CGGCCTTCAA CGAGCGCTCC GTGGCCGCGC
25501 ACCTGGCGGA CATTATCTTC CCCGAACGCC TGCTTAAAAC CCTGCAACAG GGTCTGCCAG
25561 ACTTCACCAG TCAAAGCATG TTGCAAAACT TTAGGAACTT TATCCTAGAG CGTTCAGGAA
25621 TTCTGCCCGC CACCTGCTGT GCGCTTCCTA GCGACTTTGT GCCCATTAAG TACCGTGAAT
25681 GCCCTCCGCC GCTTTGGGGT CACTGCTACC TTCTGCAGCT AGCCAACTAC CTTGCCTACC
25741 ACTCCGACAT CATGGAAGAC GTGAGCGGTG ACGGCCTACT GGAGTGTCAC TGTCGCTGCA
25801 ACCTATGCAC CCCGCACCGC TCCCTGGTCT GCAATTCACA ACTGCTTAGC GAAAGTCAAA
25861 TTATCGGTAC CTTTGAGCTG CAGGGTCCCT CGCCTGACGA AAAGTCCGCG CTCCGGGGT
25921 TGAAACTCAC TCCGGGGCTG TGGACGTCGG CTTACCTTCG CAAATTTGTA CCTGAGGACT
25981 ACCACGCCCA CGAGATTAGG TTCTACGAAG ACCAATCCCG CCCGCCAAAT GCGGAGCTTA
26041 CCGCCTGCGT CATTACCCAG GGCCACATCC TTGGCCAATT GCAAGCCATT AACAAAGCCC
26101 GCCAAGAGTT TCTGCTACGA AAGGGACGGG GGGTTTACTT GGACCCCCAG TCCGGCGAGG
26161 AGCTCAACCC AATCCCCCCG CCGCCGCAGC CCTATCAGCA GCCGCGGGCC CTTGCTTCCC
26221 AGGATGGCAC CCAAAAAGAA GCTGCAGCTG CCGCCGCCGC CACCCACGGA CGAGGAGGAA
26281 TACTGGGACA GTCAGGCAGA GGAGGTTTTG GACGAGGAGG AGGAGATGAT GGAAGACTGG
26341 GACAGCCTAG ACGAGGAAGC TTCCGAGGCC GAAGAGGTGT CAGACGAAAC ACCGTCACCC
26401 TCGGTCGCAT TCCCCTCGCC GGCGCCCCAG AAAATCGGCAA CCGTTCCCAG CATTGCTACA
26461 ACCTCCGCTC CTCAGGCGCC GCCGGCACTG CCCGTTCGCC GACCCAACCG TAGATGGGAC
26521 ACCACTGGAA CCAGGGCCGG TAAGTCTAAG CAGCCGCCGC CGTTAGCCCA AGAGCAACAA
26581 CAGCGCCAAG CTACCGCTC GTGGCGCGTG CACAAGAACG CCATAGTTGC TTGCTTGCAA
26641 GACTGTGGGG GCAACATCTC CTTCGCCCGC CGCTTTCTTC TCTACCATCA CGGCGTGGCC
26701 TTCCCCCGTA ACATCCTGCA TTACTACCGT CATCTCTACA GCCCCTACTG CACCGGCGGC
26761 AGCGGCAGCA ACAGCAGCGG CCACGCAGAA GCAAAGGCGA CCGGATAGCA AGACTCTGAC
26821 AAAGCCCAAG AAATCCACAG CGGCGGCAGC AGCAGGAGGA GGAGCACTGC GTCTGGCGCC
26881 CAACGAACCC GTATCGACCC GCGAGCTTAG AAACAGGATT TTTCCCACTC TGTATGCTAT
26941 ATTTCAACAG AGCAGGGGCC AAGAACAAGA GCTGAAAATA AAAAACAGGT CTCTGCGCTC
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FIG.11A-10

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27001 CCTCACCCGC AGCTGCCTGT ATCACAAAAG CGAAGATCAG CTTCGGCGCA CGCTGGAAGA
27061 CGCGGAGGCT CTCTTCAGCA AATACTGCGC GCTGACTCTT AAGGACTAGT TTCGCGCCCT
27121 TTCTCAAATT TAAGCGCGAA AACTACGTCA TCTCCAGCGG CCACACCCGG CGCCAGCACC
27181 TGTCGTCAGC GCCATTATGA GCAAGGAAAT TCCCACGCCC TACATGTGGA GTTACCAGCC
27241 ACAAATGGGA CTTGCGGCTG GAGCTGCCCA AGACTACTCA ACCCGAATAA ACTACATGAG
27301 CGCGGGACCC CACATGATAT CCCGGGTCAA CGGAATCCGC GCCCACCGAA ACCGAATTCT
27361 CCTCGAACAG GCGGCTATTA CCACCACACC TCGTAATAAC CTTAATCCCC GTAGTTGGCC
27421 CGCTGCCCTG GTGTACCAGG AAAGTCCCGC TCCCACCACT GTGGTACTTC CCAGAGACGC
27481 CCAGGCCGAA GTTCAGATGA CTAACTCAGG GGCGCAGCTT GCGGGCGGCT TTCGTCACAG
27541 GGTGCGGTCG CCCGGGCAGG GTATAACTCA CCTGAAAATC AGAGGGCGAG GTATTCAGCT
27601 CAACGACGAG TCGGTGAGCT CCTCTCTTGG TCTCCGTCCG GACGGGACAT TTCAGATCGG
27661 CGGCGCTGGC CGCTCTTCAT TTACGCCCCG TCAGGCGATC CTAACTCTGC AGACCTCGTC
27721 CTCGGAGCCG CGCTCCGGAG GCATTGGAAC TCTACAATTT ATTGAGGAGT TCGTGCCTTC
27781 GGTTTACTTC AACCCCTTTT CTGGACCTCC CGGCCACTAC CCGGACCAGT TTATTCCCAA
27841 CTTTGACGCG GTAAAAGACT CGGCGGACGG CTACGACTGA ATGACCAGTG GAGAGGCAGA
27901 GCAACTGCGC CTGACACACC TCGACCACTG CCGCCGCCAC AAGTGCTTTG CCCGCGGCTC
27961 CGGTGAGTTT TGTTACTTTG AATTGCCCGA AGAGCATATC GAGGGCCCGG CGCACGGCGT
28021 CCGGCTCACC ACCCAGGTAG AGCTTACACG TAGCCTGATT CGGGAGTTTA CCAAGCGCCC
28081 CCTGCTAGTG GAGCGGGAGC GGGGTCCCTG TGTTCTGACC GTGGTTTGCA ACTGTCCTAA
28141 CCCTGGATTA CATCAAGATC TTTGTTGTCA TCTCTGTGCT GAGTATAATA AATACAGAAA
28201 TTAGAATCTA CTGGGGCTCC TGTCGCCATC CTGTGAACGC CACCGTTTTT ACCCACCCAA
28261 AGCAGACCAA AGCAAACCTC ACCTCCGGTT TGCACAAGCG GGCCAATAAG TACCTTACCT
28321 GGTACTTTAA CGGCTCTTCA TTTGTAATTT ACAACAGTTT CCAGCGAGAC GAAGTAAGTT
28381 TGCCACACAA CCTTCTCGGC TTCAACTACA CCGTCAAGAA AAACACCACC ACCACCCTCC
28441 TCACCTGCCG GGAACGTACG AGTGCGTCAC CGGTTGCTGC GCCCACACCT ACAGCCTGAG
28501 CGTAACCAGA CATTACTCCC ATTTTCCCAA AACAGGAGGT GAGCTCAACT CCCGGAACTC
28561 AGGTCAAAAA AGCATTTTGC GGGGTGCTGG GATTTTTTAA TTAAGTATAT GAGCAATTCA
28621 AGTAACTCTA CAAGCTTGTC TAATTTTTCT GGAATTGGGG TCGGGGTTAT CCTTACTCTT
28681 GTAATTCTGT TTATTCTTAT ACTAGCACTT CTGTGCCTTA GGGTTGCCGC CTGCTGCACG
28741 CACGTTTGTA CCTATTGTCA GCTTTTTAAA CGCTGGGGGC GACATCCAAG ATGAGGTACA
28801 TGATTTTAGG CTTGCTCGCC CTTGCGGCAG TCTGCAGCGC TGCCAAAAG GTTGAGTTTA
28861 AGGAACCAGC TTGCAATGTT ACATTTAAAT CAGAAGCTAA TGAATGCACT ACTCTTATAA
28921 AATGCACCAC AGAACATGAA AAGCTTATTA TTCGCCACAA AGACAAAATT GGCAAGTATG
28981 CTGTATATGC TATTTGGCAG CCAGGTGACA CTAACGACTA TAATGTCACA GTCTTCCAAG
29041 GTGAAAATCG TAAAACTTTT ATGTATAAAT TTCCATTTTA TGAAATGTGC GATATTACCA
29101 TGTACATGAG CAAACAGTAC AAGTTGTGGC CCCCACAAAA GTGTTTAGAG AACACTGGCA
29161 CCTTTTGTTC CACCGCTCTG CTTATTACAG CGCTTGCTTT GGTATGTACC TTACTTTATC
29221 TCAAATACAA AAGCAGACGC AGTTTTATTG ATGAAAAGAA AATGCCTTGA TTTTCCGCTT
29281 GCTTGTATTC CCCTGGACAA TTTACTCTAT GTGGGATATG CGCCAGGCGG GAAAGATTAT
29341 ACCCACAACC TTCAAATCAA ACTTTCCTGG ACGTTAGCGC CTGACTTCTG CCAGCGCCTG
29401 CACTGCAAAT TTGATCAAAC CCAGCTTCAG CTTGCCTGCT CCAGAGATGA CCGGCTCAAC
29461 CATCGCGCCC ACAACGGACT ATCGCAACAC CACTGCTACC GGACTAAAAT CTGCCCTAAA
29521 TTTACCCCAA GTTCATGCCT TTGTCAATGA CTGGGCGAGC TTGGGCATGT GGTGGTTTTC
29581 CATAGCGCTT ATGTTTGTTT GCCTTATTAT TATGTGGCTT ATTTGTTGCC TAAAGCGCAG
29641 ACGCGCCAGA CCCCCCATCT ATAGGCCTAT CATTGTGCTC AACCCACACA ATGAAAAAAT
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FIG.11A-11

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29701 TCATAGATTG GACGGTCTCA AACCATGTTC TCTTCTTTTA CAGTATGATT AAATGAGACA
29761 TGATTCCTCG AGTCCTTATA TTATTGACCC TTGTTGCGCT TTTCTGTGCG TGCTCTACAT
29821 TGGCTGCGGT CGCTCACATC GAAGTAGATT GCATCCCACC TTTCACAGTT TACCTGCTTT
29881 ACGGATTTGT CACCCTTATC CTCATCTGCA GCCTCGTCAC TGTAGTCATC GCCTTCATTC
29941 AGTTCATTGA CTGGATTTGT GTGCGCATTG CGTACCTTAG GCACCATCCG CAATACAGAG
30001 ACAGGACTAT AGCTGATCTT CTCAGAATTC TTTAATTATG AAACGGATTG TCACTTTTGT
30061 TTTGCTGATT TTCTGCGCCC TACCTGTGCT TTGCTCCCAA ACCTCAGCGC CTCCCAAAAG
30121 ACATATTTCC TGCAGATTCA CTCAAATATG GAACATTCCC AGCTGCTACA ACAAACAGAG
30181 CGATTTGTCA GAAGCCTGGT TATACGCCAT CATCTCTGTC ATGGTTTTTT GCAGTACCAT
30241 TTTTGCCCTA GCCATATACC CATACCTTGA CATTGGTTGG AATGCCATAG ATGCCATGAA
30301 CCACCCTACT TTCCCAGCGC CCAATGTCAT ACCACTGCAA CAGGTTATTG CCCCAATCAA
30361 TCAGCCTCGC CCCCCTTCTC CCACCCCCAC TGAGATTAGC TACTTTAATT TGACAGGTGG
30421 AGATGACTGA ATCTCTAGAT CTAGAATTGG ATGGAATTAA CACCGAACAG CGCCTACTAG
30481 AAAGGCGCAA GGCGGCGTCC GAGCGAGAAC GCCTAAAACA AGAAGTTGAA GACATGGTTA
30541 ACCTGCACCA GTGTAAAAGA GGTATCTTTT GTGTGGTCAA GCAGGCCAAA CTTACCTACG
30601 AAAAAACCAC TACCGGCAAC CGCCTTAGCT ACAAGCTACC CACCCAGCGC CAAAAACTGG
30661 TGCTTATGGT GGGAGAAAAA CCTATCACCG TCACCCAGCA CTCGGCAGAA ACAGAAGGCT
30721 GCCTGCACTT CCCCTATCAG GGTCCAGAGG ACCTCTGCAC TCTTATTAAA ACCATGTGTG
30781 GCATTAGAGA TCTTATTCCA TTCAACTAAC AATAAACACA CAATAAATTA CTTACTTAAA
30841 ATCAGTCAGC AAATCTTTGT CCAGCTTATT CAGCATCACC TCCTTTCCCT CCTCCCAACT
30901 CTGGTATTTC AGCAGCCTTT TAGCTGCGAA CTTTCTCCAA AGTCTAAATG GGATGTCAAA
30961 TTCCTCATGT TCTTGTCCCT CCGCACCCAC TATCTTCATA TTGTTGCAGA TGAAACGCGC
31021 CAGACCGTCT GAAGACACCT TCAACCCTGT GTACCCATAT GACACGGAAA CCGGCCCTCC
31081 AACTGTGCCT TTCCTTACCC CTCCCTTTGT GTCGCCAAAT GGGTTCCAAG AAAGTCCCCC
31141 CGGAGTGCTT TCTTTGCGTC TTTCAGAACC TTTGGTTACC TCACACGGCA TGCTTGCGCT
31201 AAAAATGGGC AGCGGCCTGT CCCTGGATCA GGCAGGCAAC CTTACATCAA ATACAATCAC
31261 TGTTTCTCAA CCGCTAAAAA AAACAAAGTC CAATATAACT TTGGAAACAT CCGCGCCCCT
31321 TACAGTCAGC TCAGGCGCCC TAACCATGGC CACAACTTCG CCTTTGGTGG TCTCTGACAA
31381 CACTCTTACC ATGCAATCAC AAGCACCGCT AACCGTGCAA GACTCAAAAC TTAGCATTGC
31441 TACCAAAGAG CCACTTACAG TGTTAGATGG AAAACTGGCC CTGCAGACAT CAGCCCCCCT
31501 CTCTGCCACT GATAACAACG CCCTCACTAT CACTGCCTCA CCTCCTCTTA CTACTGCAAA
31561 TGGTAGTCTG GCTGTTACCA TGGAAAACCC ACTTTACAAC AACAATGGAA AACTTGGGCT
31621 CAAAATTGGC GGTCCTTTGC AAGTGGCCAC CGACTCACAT GCACTAACAC TAGGTACTGG
31681 TCAGGGGGTT GCAGTTCATA ACAATTTGCT ACATACAAAA GTTACAGGCG CAATAGGGTT
31741 TGATACATCT GGCAACATGG AACTTAAAAC TGGAGATGGC CTCTATGTGG ATAGCGCCGG
31801 TCCTAACCAA AAACTACATA TTAATCTAAA TACCACAAAA GGCCTTGCTT TTGACAACAC
31861 CGCAATAACA ATTAACGCTG GAAAAGGGTT GGAATTTGAA ACAGACTCCT CAAACGGAAA
31921 TCCCATAAAA ACAAAAATTG GATCAGGCAT ACAATATAAT ACCAATGGAG CTATGGTTGC
31981 AAAACTTGGA ACAGGCCTCA GTTTTGACAG CTCCGGAGCC ATAACAATGG GCAGCATAAA
32041 CAATGACAGA CTTACTCTTT GGACAACACC AGACCCATCC CCAAATTGCA GAATTGCTTC
32101 AGATAAAGAC TGCAAGCTAA CTCTGGCGCT AACAAAATGT GGCAGTCAAA TTTTGGGCAC
32161 TGTTTCAGCT TTGGCAGTAT CAGGTAATAT GGCCTCCATC AATGGAACTC TAAGCAGTGT
32221 AAACTTGGTT CTTAGATTTG ATGACAACGG AGTGCTTATG TCAAATTCAT CACTGGACAA
32281 ACAGTATTGG AACTTTAGAA ACGGGGACTC CACTAACGGT CAACCATACA CTTATGCTGT
32341 TGGGTTTATG CCAAACCTAA AAGCTTACCC AAAAACTCAA AGTAAAACTG CAAAAAGTAA
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FIG.11A-12

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32401 TATTGTTAGC CAGGTGTATC TTAATGGTGA CAAGTCTAAA CCATTGCATT TTACTATTAC
32461 GCTAAATGGA ACAGATGAAA CCAACCAAGT AAGCAAATAC TCAATATCAT TCAGTTGGTC
32521 CTGGAACAGT GGACAATACA CTAATGACAA ATTTGCCACC AATTCCTATA CCTTCTCCTA
32581 CATTGCCCAG GAATAAAGAA TCGTGAACCT GTTGCATGTT ATGTTTCAAC GTGTTTATTT
32641 TTCAATTGCA GAAAATTTCA AGTCATTTTT CATTCAGTAG TATAGCCCCA CCACCACATA
32701 GCTTATACTA ATCACCGTAC CTTAATCAAA CTCACAGAAC CCTAGTATTC AACCTGCCAC
32761 CTCCCTCCCA ACACACAGAG TACACAGTCC TTTCTCCCCG GCTGGCCTTA AACAGCATCA
32821 TATCATGGGT AACAGACATA TTCTTAGGTG TTATATTCCA CACGGTCTCC TGTCGAGCCA
32881 AACGCTCATC AGTGATGTTA ATAAACTCCC CGGGCAGCTC GCTTAAGTTC ATGTCGCTGT
32941 CCAGCTGCTG AGCCACAGGC TGCTGTCCAA CTTGCGGTTG CTCAACGGGC GGCGAAGGAG
33001 AAGTCCACGC CTACATGGGG GTAGAGTCAT AATCGTGCAT CAGGATAGGG CGGTGGTGCT
33061 GCAGCAGCGC GCGAATAAAC TGCTGCCGCC GCCGCTCCGT CCTGCAGGAA TACAACATGG
33121 CAGTGGTCTC CTCAGCGATG ATTCGCACCG CCCGCAGCAT AAGGCGCCTT GTCCTCCGGG
33181 CACAGCAGCG CACCCTGATC TCACTTAAGT CAGCACAGTA ACTGCAGCAC AGTACCACAA
33241 TATTGTTTAA AATCCCACAG TGCAAGGCGC TGTATCCAAA GCTCATGGCG GGGACCACAG
33301 AACCCACGTG GCCATCATAC CACAAGCGCA GGTAGATTAA GTGGCGACCC CTCATAAACA
33361 CGCTGGACAT AAACATTACC TCTTTTGGCA TGTTGTAATT CACCACCTCC CGGTACCATA
33421 TAAACCTCTG ATTAAACATG GCGCCATCCA CCACCATCCT AAACCAGCTG GCCAAAACCT
33481 GCCCGCCGGC TATGCACTGC AGGGAACCGG GACTGGAACA ATGACAGTGG AGAGCCCAGG
33541 ACTCGTAACC ATGGATCATC ATGCTCGTCA TGATATCAAT GTTGGCACAA CACAGGCACA
33601 CGTGCATACA CTTCCTCAGG ATTACAAGCT CCTCCCGCGT CAGAACCATA TCCCAGGGAA
33661 CAACCCATTC CTGAATCAGC GTAAATCCCA CACTGCAGGG AAGACCTCGC ACGTAACTCA
33721 CGTTGTGCAT TGTCAAAGTG TTACATTCGG GCAGCAGCGG ATGATCCTCC AGTATGGTAG
33781 CGCGTGTCTC TGTCTCAAAA GGAGGTAGGC GATCCCTACT GTACGGAGTG CGCCGAGACA
33841 ACCGAGATCG TGTTGGTCGT AGTGTCATGC CAAATGGAAC GCCGGACGTA GTCATATTTC
33901 CTGAAGCAAA ACCAGGTGCG GGCGTGACAA ACAGATCTGC GTCTCCGGTC TCGTCGCTTA
33961 GCTCGCTCTG TGTAGTAGTT GTAGTATATC CACTCTCTCA AAGCATCCAG GCGCCCCCTG
34021 GCTTCGGGTT CTATGTAAAC TCCTTCATGC GCCGCTGCCC TGATAACATC CACCACCGCA
34081 GAATAAGCCA CACCCAGCCA ACCTACACAT TCGTTCTGCG AGTCACACAC GGGAGGAGCG
34141 GGAAGAGCTG GAAGAACCAT GTTTTTTTTT TTTATTCCAA AAGATTATCC AAAACCTCAA
34201 AATGAAGATC TATTAAGTGA ACGCGCTCCC CTCCGGTGGC GTGGTCAAAC TCTACAGCCA
34261 AAGAACAGAT AATGGCATTT GTAAGATGTT GCACAATGGC TTCCAAAAGG CAAACTGCCC
34321 TCACGTCCAA GTGGACGTAA AGGCTAAACC CTTCAGGGTG AATCTCCTCT ATAAACATTC
34381 CAGCACCTTC AACCATGCCC AAATAATTTT CATCTCGCCA CCTTATCAAT ATGTCTCTAA
34441 GCAAATCCCG AATATTAAGT CCGGCCATTG TAAAAATCTG CTCCAGAGCG CCCTCCACCT
34501 TCAGCCTCAA GCAGCGAATC ATGATTGCAA AAATTCAGGT TCCTCACAGA CCTGTATAAG
34561 ATTCAAAAGC GGAACATTAA CAAAAATACC GCGATCCCGT AGGTCCCTTC GCAGGGCCAG
34621 CTGAACATAA TCGTGCAGGT CTGCACGGAC CAGCGCGGCC ACTTCCCCGC CAGGAACCAT
34681 GACAAAAGAA CCCACACTGA TTATGACACG CATACTCGGA GCTATGCTAA CCAGCGTAGC
34741 CCCGATGTAA GCTTGTTGCA TGGGCGGCGA TATAAATGC AAGGTACTGC TCAAAAAATC
34801 AGGCAAAGCC TCGCGCAAAA AAGCAAGCAC ATCGTAGTCA TGCTCATGCA GATAAAGGCA
34861 GGTAAGTTCC GGAACCACCA CAGAAAAAGA CACCATTTTT CTCTCAAACA TGTCTGCGGG
34921 TTCCTGCATA AACACAAAAT AAAATAACAA AAAAAAAAAA ACATTTAAAC ATTAGAAGCC
34981 TGTNTTACAA CAGGAAAAAC AACCCTTATA AGCATAAGAC GGACTACGGC CATGCCGGCG
35041 TGACCGTAAA AAAACTGGTC ACCGTGATTA AAAAGCACCA CCGACAGTTC CTCGGTCATG
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FIG.11A-13

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35101 TCCGGAGTCA TAATGTAAGA CTCGGTAAAC ACATCAGGTT GGTTAACATC GGTCAGTGCT
35161 AAAAAGCGAC CGAAATAGCC CGGGGGAATA CATACCCGCA GGCGTAGAGA CAACATTACA
35221 GCCCCCATAG GAGGTATAAC AAAATTAATA GGAGAGAAAA ACACATAAAC ACCTGAAAAA
35281 CCCTCCTGCC TAGGCAAAAT AGCACCCTCC CGCTCCAGAA CAACATACAG CGCTTCCACA
35341 GCGGCAGCCA TAACAGTCAG CCTTACCAGT AAAAAAACCT ATTAAAAAAC ACCACTCGAC
35401 ACGGCACCAG CTCAATCAGT CACAGTGTAA AAAGGGCCAA GTACAGAGCG AGTATATATA
35461 GGACTAAAAA ATGACGTAAC GGTTAAAGTC CACAAAAACC ACCCAGAAAA CCGCACGCGA
35521 ACCTACGCCC AGAAACGAAA GCCAAAAAAC CCACAACTTC CTCAAATCTT CACTTCCGTT
35581 TTCCCACGAT ACGTCACTTC CCATTTTAAA AAAAAACTAC AATTCCCAAT ACATGCAAGT
35641 TACTCCGCCC TAAAACCTAC GTCACCCGCC CCGTTCCCAC GCCCCGCGCC ACGTCACAAA
35701 CTCCACCCCC TCATTATCAT ATTGGCTTCA ATCCAAAATA AGGTATATTA TTGATGATG
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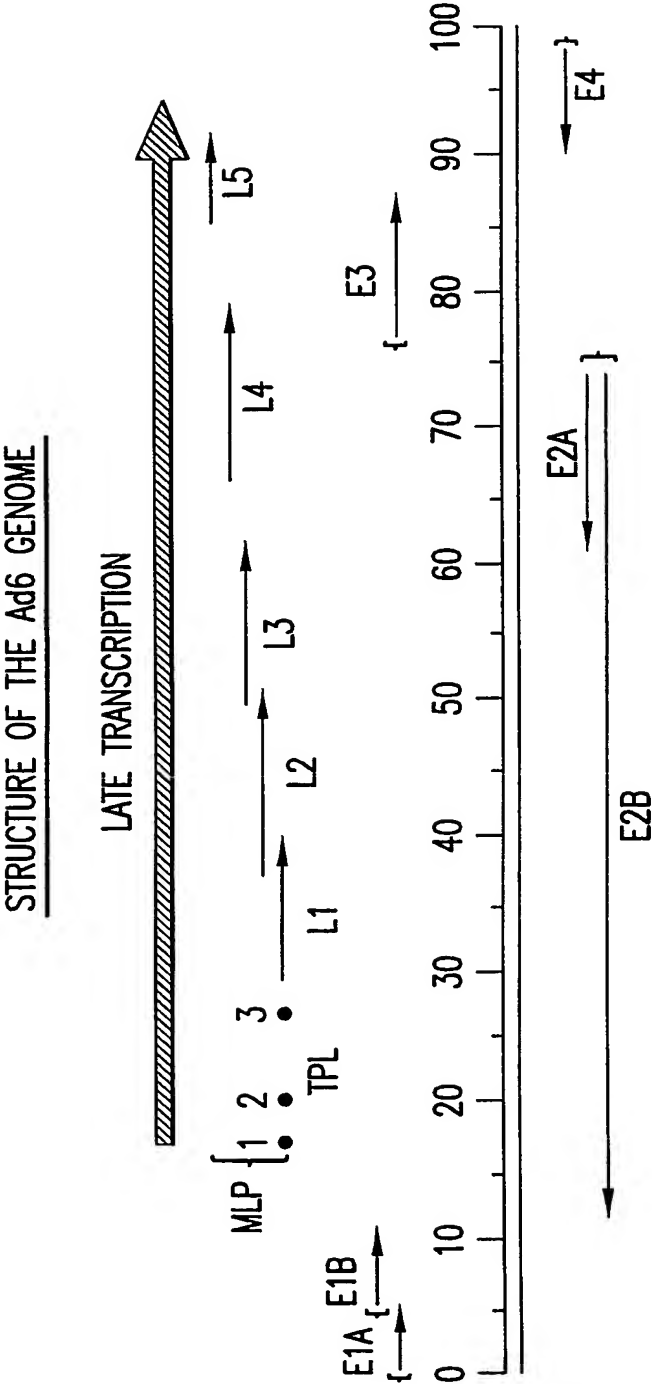
FIG.11A-14

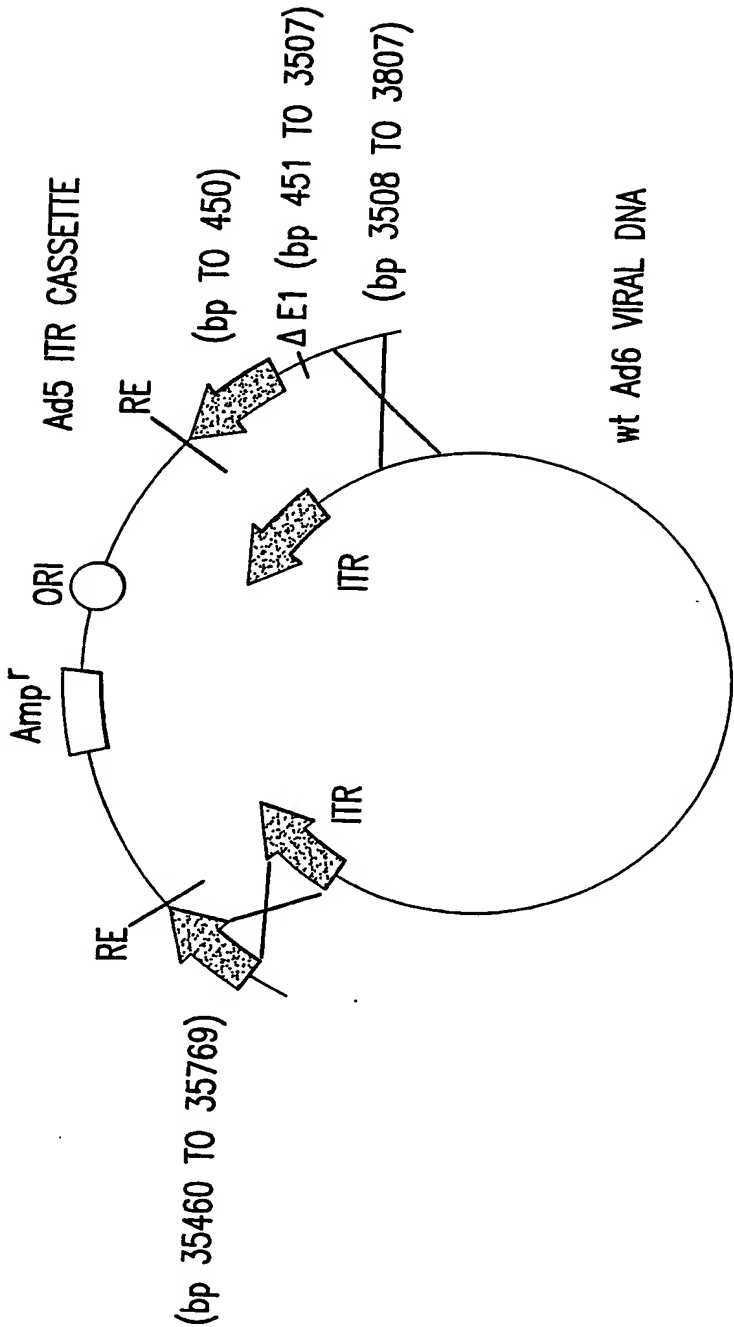STRUCTURE OF THE Ad6 GENOME

LATE TRANSCRIPTION

FIG.12

FIG.13